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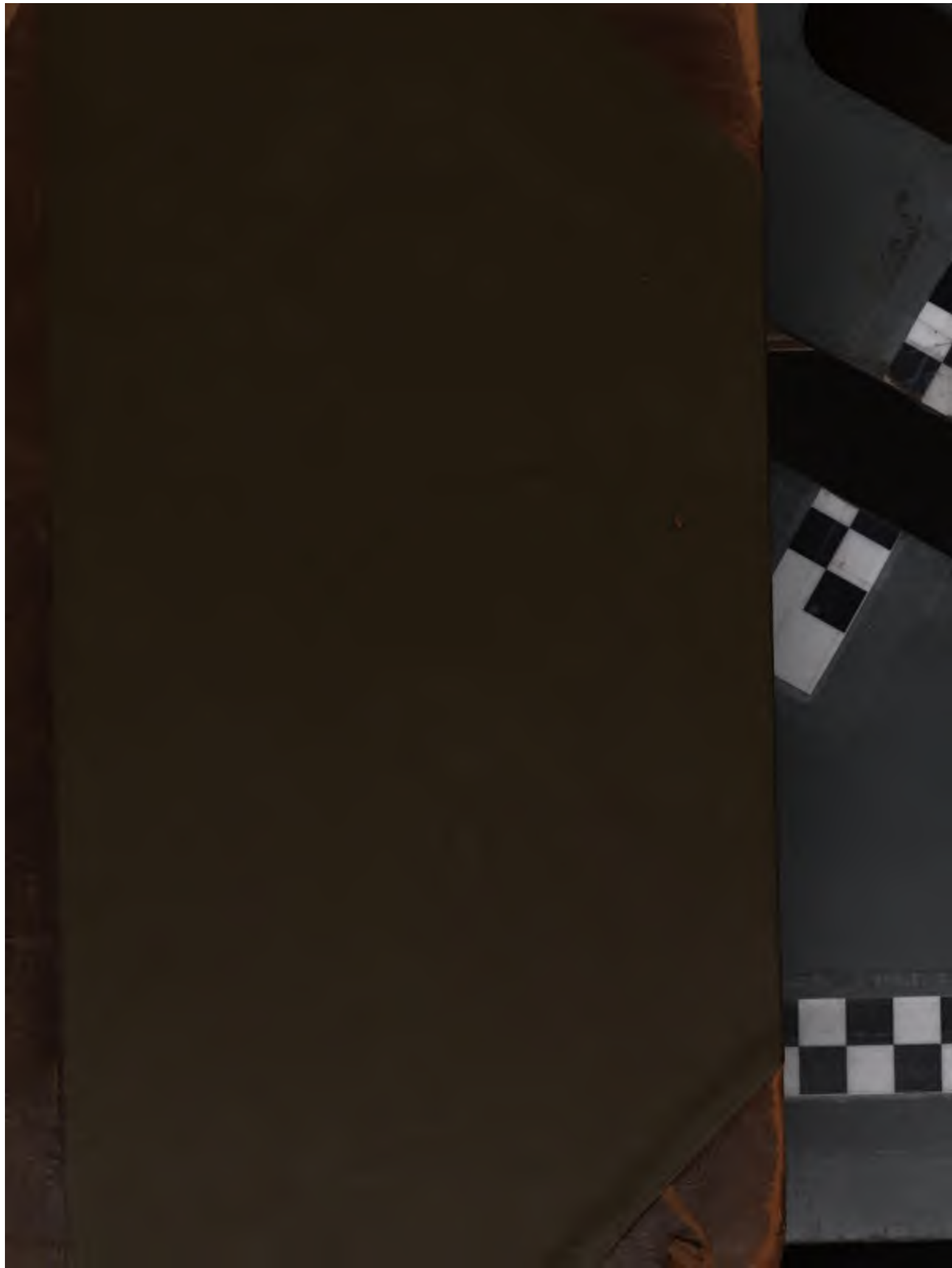
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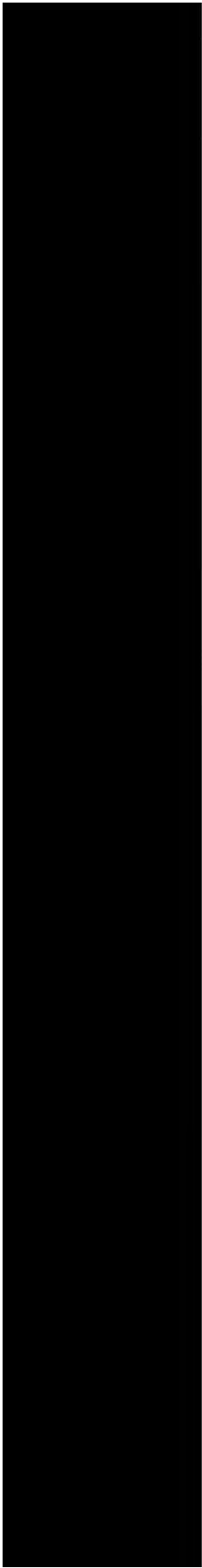
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GENERAL VIEW

OF THE

AGRICULTURE

OF THE COUNTY OF

WARWICK.

1861

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GENERAL VIEW
OF THE
AGRICULTURE
OF THE COUNTY OF
WARWICK;
WITH
OBSERVATIONS ON THE MEANS OF ITS IMPROVEMENT

BY
MR. JOHN WEDGE.

at Brit.

DRAWN UP FOR THE CONSIDERATION OF THE BOARD OF AGRICULTURE
AND INTERNAL IMPROVEMENT.

LONDON:
PRINTED BY C. MACRAE.

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A D V E R T I S E M E N T.

THE following valuable communication, respecting the present state of Husbandry in the County of Wiltshire, and the means of its improvement, drawn up for the consideration of the Board of Agriculture, is now published merely for the purpose of its being circulated that every person, interested in the welfare of the county, may have it in his power to examine it fully and published. It is therefore requested, that any additional observation, which may occur to the perusal of the following sheets, may be written in the margin, and transmitted to the Board of Agriculture, office in London, by whom the same shall be perused and attended to; and, when the returns are completed, a general view will be drawn up of the state of Agriculture in Wiltshire from the information thus accumulated, which is believed, will be found greatly superior, to any of the kind, ever yet made public.

The Board has adopted the same plan, in respect to the other counties in the united kingdom; and it is hardly necessary to add, will be happy to give assistance in its power, to any person who may be desirous of improving his breed of cattle, sheep, &c. or of making any useful experiment in husbandry.

TO
THE READER.

IT is requested, that this Paper, may be returned to
Board of Agriculture, before the first of May next.

It is hardly necessary to add, that the Board does
consider itself responsible, for any fact or observ
contained in these Reports, which, at present, are pr
and circulated, for the purpose merely, of procuring
ditional information, and of enabling every one, to
tribute his mite, to the Improvement of the Country

Jan. 1794.

I N T R O D U C T I O N .

THE county of WARWICK is divided into four hundreds, called Hemlingford, Knightlow, Kington, and Barlechway. The county of the city of Coventry, which lies within the county of Warwick, may be considered as a fifth hundred. There are about 160 parishes in it. The population has not been ascertained, but must be very considerable. In regard to its extent, by the best information I could procure, it contains about 618000 acres. Its situation, near the center of England; the mildness (comparatively speaking) and salubrity of its air are so well known, that it will be unnecessary for me to say more on that subject. Its principal rivers are, the Avon and the Tame. The Avon rises a few miles east of Rugby, and runs in a south west direction through Warwick, to Stratford on Avon; and leaves the county, after having crossed the Ikenild street, at Bitford; and in its course receives the Sow, the Leam, the Stour, and a great number of other small streams, which make it imperfectly navigable to some distance above Stratford on Avon. The Tame rises N. W. of Birmingham, and running through the N. W. corner of the county, receives the Rea, the Cole, the Blythe, and other streams of less note, and leaves the county at Tamworth.

The woods near Lord Aylesford's, and at Corley, have been supposed to be higher than any other land in England. From this elevated ridge, the water runs on one side into the Avon, and so on to the Bristol Channel, from the other side into the Tame, which empties itself into the Trent and Humber, at Hull. As Packington and Corley are near the

center of England, the supposition seems to be well founded; but, however that may be, the situation is not colder, the air more sharp, than in other parts of the county; perhaps, to the vast quantity of timber and wood which this high ground abounds, and is sheltered. There are not any fens in this county; and much of the very swampy lands are drained; though on almost every side there is some land in want of that most essential improvement.

The principal market towns are, Warwick (the chief town), Birmingham, Coventry, Stratford on Avon, Kenilworth, Henley in Arden, Kington, Southam, Rugby, Leamington, Atherston, Poleworth, and Colehill. There are a few others of little note, and many populous villages.

The soil of this county varies much; and is found in almost every kind, except those which have a basis of flint as their basis: but, although the soil, extending from Atherston on Stour, to *Stratford on Avon*, Alveston, Kenilworth, Charlcot, Snitterfield, Barford, *Warwick*, Leamington, Cubbington, Kenilworth, Stonely, Baggington, Leamington, Wolfston, Binley, *Coventry*, Allesley, Meriden, Packington, *Colehill*, Castle Bromwich, Birmingham, and to many adjoining villages, amounting to about one fourth of the county, is chiefly a fine dry red loam, or good sand; yet in the remainder of those parishes, strong clay, or barren sand, are more or less intermixed.

The south east part of the county, which is bounded by Oxfordshire, Northamptonshire, and the Watling-street, extending to the Roman Fosse-way, (which passes through this county) is also about one fourth part of the whole; and consists of good strong clay-land, and other rich pasturage of mixed nature; where great numbers of fine sheep are reared, and fattened, for the consumption of the country; but some are sent for the London market. In this tract, also, is some gravel, and almost every species of lime-stone, or other

clay-land to be found. A less proportion of land is in tillage in this division than in any other.

The north-east end of the county, which is in part bounded by the Watling-street-way, extending from High Cross to Withy-brook, Bulkington, *Bedworth*, Burton Hastings, *Nuneaton*, Weddington, Anley, *Atherston*, Baddesley, *Polesworth*, Newton Regis, Seckington, Amington, Wilncot, Baxterley, Whitacre, Aftley, &c. contains about one other fourth part, and is good strong clay and marl land, with such exceptions as have been mentioned before. This tract has a considerable quantity of land used for grazing cattle and sheep, but has much more ploughed, than the south east quarter.

The remaining one-fourth, or western side of the county, extending from Sheldon, near Birmingham, to Elmdon, Solihull, Barston, Balsal, Packwood, Lapworth, *Henley in Arden*, Morton, Bagot, Aston Cantilow, Alcester, Bitford, &c. &c. is principally marl, clay, and other cold land, with such exceptions as have been before noticed. This land is mostly in tillage, and a much smaller proportion of sheep are kept, than on the other parts of the county, partly from the nature of its soil, and partly from the neglect of its occupiers, in not draining.

MINERALS.

THERE are considerable coal mines worked about *Bedworth*, Griff, Chilvers Coton, Oldbury, and extending in the same line, near to *Atherston*, *Polesworth*, and *Wilncot*. They are of a sulphureous quality, but make durable hot fires, and are sold from three pence to five pence per hundred weight,

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at

at the pits. Some lime is also found in that neighbourhood and worked.

STATE OF PROPERTY.

THE land in this district is possessed by many who occupy their own estates: by the considerable number of manufacturers of Birmingham, Coventry, and other towns; but principally by those of large estates, namely of Buccleugh and Dorset; the Marquises of Salisbury and Hartford; the Earls of Aylesford, Clarendon, Warwick, Denbigh, Northampton, Abergavenny, Plymouth, and Coventry; the Lords Craven, Willoughby de Brook, Bagot, Digby, Dormer, Lifford, and Clifford; the Lord Bishop of Cornwall, Mordaunt, Sir G. A. Shaukburgh, Sir Robert Mordaunt, Sir Robert Lawley, Sir H. G. Calthrope, Sir H. Sir Thomas Gooch, Sir Thomas Biddulph, Sir Thomas Morton, and many other respectable gentlemen.

MODE OF OCCUPATION.

THE land in this county, from an average of large and small occupiers, may, I think, be considered as middle sized, or rather small farms, about 150 acres perhaps less: and the average size of the new inclosures about 15 acres, and those of the old inclosures about 100 acres; yet there are many opulent farmers and gentlemen in this district, who occupy large tracts of land, and whose management of it, and judicious care in breeding sheep, &c. are equal to any others in the kingdom.

are able to judge of the practicability of those schemes or improvements made on a small scale, in gardens, on rich lands highly manured, or under other circumstances, which, however laudable in those who make them, are sometimes delusive, and not found to answer on a larger scale of practice.*

DIVISION OF THE DISTRICT.

I HAVE estimated the whole county at 618,000 acres; of which, about one-fourth, 154,530 acres are constantly under a successive round of tillage, and such grafts seeds as will be hereafter mentioned. In every course of tillage, consisting of two, three, or four crops, a summer fallow for turnips or wheat, well manured, is generally made. Of this 154,530 acres, about one-sixth, 25,700 acres may be every year wheat; about 30,000 acres every year fallow; of

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which

* The following are the names of some of the principal improvers in this respectable agricultural district: Messrs. Couchman, senior and junior, of Balsal Temple; Mr. Blakeley, of Exhall; Mr. Palfrey, of Tinnam; Mr. Brecks, of Welverhill; Mr. R. Swain, of Folehill; Mr. J. Hutchins, of Griff; Mr. Lant, of Allesley; Mr. Catterns, of Binley; Mr. Smart, of Stivichall; Mr. Moor, of Charlcot; Mr. Eagle, of Allesley; Mr. Watts, of Binley; Mr. Preeft, of Fillongley; Mr. Butler and Mr. Wigan, of Kenelworth; Mr. Brooks, of Coventry; Mr. Shelden, Mr. Whitehead, and Mr. Handley, of Barford; Messrs. Campions, of Lemington; Messrs. Chandlers, of Kington; Mr. Joseph Ruffel, of Cubbington; Mr. Boulton, of Weibone; Mr. Louch, of Melcot; Mr. Smith, of Snitterfield; Mr. Jackson, of Alveston; Mr. Doot, of Atherston on Stour; Mr. Parsons, of Brownlover; Messrs. Arnold, Mr. Brierley, near Rugby; Mr. Hern, of Wolfston; Mr. Bagshaw, Mr. Tomkins, of Snowford; Mr. Bellamy, of Hazely; Mr. Thorrelly, of Bickenhill; Messrs. Richards, of Sheldon; Mr. Perks, of Hams; Mr. Harrison, of Drakenedge; Mr. Palmer, of Maxstock; Mr. Whately, of Chadshurst; Mr. Higgins, of Bridgetown; Mr. Pen, of Red Hill; Mr. Dester, of Edston; and Mr. Parker, of Whitley, near Coventry.

which 30,000 acres, about 15,000 acres may be tu
vetches ; about 41,500 acres every year, barley, o
&c. and the remaining 57,330 acres of seeds, the gr
of which are grazed with cattle and sheep ; perha
acres grazed, and the remainder mown. The
463,470 acres I suppose to consist of gardens, mead
ture, woods, water, open fields, waste lands, and r
gardens, (to about 24,000 houses) about 4000
meadows 82,000 acres ; of pasture and feeding land
acres ; of woods, canals, and rivers, &c. 50,000
open field land 57,000 acres ; and of waste lands
120,470 acres. If I had been able to ascertain w
certainty these proportions, I should here have att
calculate the rental and produce of the whole c
entering minutely into the particulars of each artic
present, I shall only suppose the average price of
clusive of waste, to be 18s. per acre, which amou
yearly rent of 448,200l. exclusive of houses ; and
produce is three times that sum, or 1,344,600l.
houses and offices in this district are, upon the v
lerably good ; many of them excellent, and most
a train of progressive improvement.*

HUSBANDRY.

THE system of husbandry, in Warwickshire, va
on the same sorts of land. Many of the best mana
taking two white straw crops in succession, but
greater numbers of occupiers who do not attend
to that circumstance, who are, in other respects,
nagers.

* I beg leave here to express my thanks to Mr. Couchman, a
for their aid in ascertaining these proportions ; and to them and
for material assistance in the whole of the business stated in these

ROTATION OF CROPS.

On leam, or good sandy soils, by the best managers.

Wheat from turf; if clean vetches for green food previous to a turnip fallow;

Barley;

Seeds; grazed 1, 2, or 3 years, manured; and then

Pease, beans, or vetches from turf;

Wheat;

Turnip fallow manured;

Barley;

Seeds, grazed 1, 2, or 3 years; and then

Oats, or barley from turf;

Pease, and, if clean, brush turnips, or vetches, previous to a turnip fallow, manured;

Barley;

Seeds, 1, 2, or 3 years, according to the number of fields occupied in this manner, and so on as before, varying the crops in every course of tillage. In this county, turnips from a fallow are not (in restraining leases) considered as a crop.

Rotation of crops, on the same kind of land, by other managers.

Fallow for turnips, from turf, manured;

Barley;

Pease;

Wheat;

Seeds, 1, 2, or 3 years.

Oats, or barley, from turf;

Turnip fallow, manured;

Barley;

Seeds 1, 2, or 3 years.

Oats, or barley from turf;

Wheat manured;

Turnip fallow;

Barley;

Seeds, 1, 2, or 3 years.

Pease from turf; then

Turnips, potatoes, or carrots, manured;

Barley;

Seeds.

Flax from turf;

Wheat;

Turnip fallow, manured;

Barley;

Seeds.

The average produce of this kind of land, is, about 24 bushels of wheat; 40 bushels of barley; 45 bushels of oats; 30 bushels of pease; 20 tons of turnips; 1½ ton of clover (or seeds, &c.); and 35 stones of flax on an acre.

On good strong land.

Beans, or pease, from turf;

Wheat;

Turnip fallow, manured;

Barley;

Seeds, 1, 2, or 3 years.

Wheat from turf, sometimes trench ploughed;

Beans, pease, or both;

Barley or oats;

Seeds, 1, 2, or 3 years, manured.

Beans from turf;

Cabbages previous to wheat, ma-

Barley or oats; Seeds.	Seeds. 1, 2, or 3 years
Summer fallow from turf;	Oats, from turf;
Wheat, and then cabbages manured;	Turnip fallow;
Barley;	Barley;
Seeds.	Seeds, manured.
Vetches from turf for green food;	Summer fallow, from
Wheat;	Rye;
Barley;	Seeds, manured.
Seeds, manured.	Turnip fallow from turf
Summer fallow from turf, ma- nured;	Barley;
Wheat;	Oats;
Beans;	Seeds.
Barley or oats;	<i>On poor clay and other</i>
Seeds.	Oats from turf;
Summer fallow from turf;	Summer fallow, manu
Wheat;	Wheat;
Barley, or oats;	Seeds, 1, 2, or 3 years
Turnip fallow, manured;	Wheat from turf, top
Barley;	foot, soap ashes, &c.
Seeds.	Summer fallow, manu
Summer fallow from turf, manured;	Barley or oats;
Wheat;	Seeds, 1, 2, or 3 years.
Barley;	Beans from turf;
Oats;	Wheat, manured;
Seeds.	Summer fallow;
Flax from turf;	Barley or oats;
Wheat;	Seeds, 1 or 2 years;
Summer fallow manured;	Summer fallow from turf
Wheat, barley or oats;	Wheat;
Seeds.	Oats;
	Seeds, &c.

The average produce of this land is about 35 bushels of beans; 28 bushels of wheat; 30 bushels of barley; 40 bushels of oats; 40 stones of flax; and 2 tons of clover, on an acre.

On poor sands.

Turnip fallow from turf, manured;
Barley;

The average produce of the sands, poor clay, and on land, is about 24 bushels of oats; 24 bushels of wheat; 16 bushels of beans; from one a half ton of clover; and turnips, on an acre.

*On open field strong land, the
three field rotation.*

Summer fallow, manured ;
Wheat ;
Beans, pease, barley or oats, and
so on.

*On light land, three field
rotation.*

Fallow, manured ;
Wheat ;
Barley or oats.

Four field rotation.

Summer fallow, manured ;
Wheat ;
Clover for seed ; and then
Wheat at one furrow ;
Beans, &c.
Summer fallow manured, and so on
as before.

Wheat from clover lay ;
Turnip fallow, manured ;
Barley, oats, or pease ;
Seeds, 1 year, &c. &c.

Four field rotation.

Beans ;
Wheat ;
Summer fallow, manured ;
Barley or oats, &c.

The produce of open fields is about
20 bushels of wheat, and 24 bu-
shels of barley, oats, and beans, per
acre. The average rent of open
fields is about 10s. per acre; the rent
of same kind of land, when inclosed,
about 18s. per acre.

SEED TIME AND HARVEST.

WHEAT is sown early in September, and so on till De-
cember; beans, vetches, and pease, in February, March,
and April; vetches for green food till the latter end of May ;
and Flax in April. Early sowing seems to gain ground, and
generally secures an early harvest, viz. July for pease, and
the beginning or middle of August for most other crops : but
it is no uncommon thing to see wheat, oats, and barley, not
cut in October and November, and beans in the fields so
late as December ; owing to late sowing in *bad seasons*, and
to other bad management. Yet the great bulk of corn
harvest, in this county, is housed in August, and the first
week of September.

Hay harvest commences on good meadows, and towns, early in June, and continues in particular till the middle of August; but is principally done Midsummer and the second or third week in July.

WATER MEADOWS.

THERE are some lands watered in the vicinity of ham, and more or less near every town, and almost large in the county; the produce of these lands, in fens, is from one and a half to two tons per acre. of the numerous rivers and rivulets of this county, meadows watered; and, in many instances, the water floods, &c. is united, and diverted, for the same purpose constantly to produce good crops of hay, without manure; not only on what is by nature meadow also on up land; the latter of which generally derive greater benefit from it, because an opportunity is having the water *quickly and effectually discharged from the face*; by which greater advantage is obtained from moistened with pure water only, in hot burning fur. But, although numerous instances occur of lands watered, and some of them in an effectual manner, yet of opportunities neglected, or lands *imperfectly* watered infinitely *more* numerous; and it must be confessed the county is (on the whole) very much deficient in the

* There is a considerable quantity of flax grown, and made in this county. I have not yet had time to collect sufficient particulars to its preparation, and the manner and prices of manufacture should the Board wish any information from me, relative thereto, I should be a *great pleasure* on that subject, if I am honoured with their commands.

ment of water meadows, compared with some of the western counties of England. One of the great advantages of water meadows is supplying manure for other parts of the farm, instead of robbing it, as is the case with meadows not under the improvement of water. The fertilizing quality of *clear spring water*, which has its source in flints or chalk, on some of the west country meadows, is said to exceed the water of large towns, which is saturated with putrid substances. There is not any chalk or flint (of consequence) in this district; yet I have often observed this fertilizing quality of *clear spring water* in this county, where its source has been from calcareous substances of either marl or stone, but in a much less degree than in the instance before mentioned; the good effects of such waters on meadows must, I think, be produced by its holding some calcareous substance in *perfect solution*, which, when distributed over grass lands, must deposit that substance on its surface, and, by its septic quality, must seize all imperfect or detached vegetable substances, and convert them into mould; which mould, subsiding near to the roots of the different grasses, is the cause of their luxuriant growth.

IMPROVEMENTS SUGGESTED.

IT may not be improper here to mention, that all the different rivers, and smaller streams, in this county, have been *very much neglected*, by permitting the accumulation of soil, roots, &c. deposited by floods to remain unremoved; and by a mercenary principle of the land-owners, or tenants, planting on each side, poplars, and other aquatic plants. These rivers, &c. are consequently become so narrow, and so full

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of

of shoals, and the meadows are so often overflowed in seasons, as to be *very much reduced in their value* by the coarse grass, and the hazard of floods.

Lord Aylesford, observing this, is now clearing the river Blythe, which runs several miles through his estate, and I have authority to say, that the soil dug out from the river will, as manure, be worth more than the whole pence of widening it, which is about one hundred pounds a mile. If the method pursued by his Lordship in this business was to take place generally on the other rivers of the county, the improvement would be immense; the meadows would become sound, and summer floods, which frequently sweep off, or spoil the whole crop of hay, would seldom, if ever, happen. Mr. Moland, at his much improved place of St. Andrew's field, has also opened a part of the same river.

DRAINING.

DRAINING is, without doubt, the first step towards the improvement of all wet land; it has been practised with much success, in this county for several years; but more particularly so since Mr. Elkington, a farmer in this district, introduced a method of draining boggy lands (about the year 1780) by making deep drains, and boring at the bottom sides of them, through the different under strata, so as to tap the springs, and thereby, in many instances cure vast tracts of land, with very few drains. The novelty of this practice here, and Mr. Elkington's mysterious manner, in declaring he knew where, and in what direction the different strata of the earth divided, and at what p

lar point an auger hole might be bored, to lay dry this or that particular spring or well, were matters which attracted much notice, and occasioned great surprise; and it is but justice to Mr. Elkington, to say, that in one class of bogs, &c. which abound as much as (perhaps more than) any other, he has not only had the honour of introducing the auger in this county, but the merit of laying effectually dry, many large tracts of land. Some failures, however, having happened, and the theory of draining not appearing to be thoroughly ascertained, I was induced to write a paper on the subject, which will be found in the Appendix, together with the plans explanatory thereof.

Much draining has been done in this county, with what are called foughing bricks, that is, two bricks on the flat sides of which are semicircular cavities; these bricks, when placed one on the other, in the bottom of the drain, form a circular space of two, three, or more inches diameter, for the water to pass along; but its sediment, or something which has the appearance of vegetation, frequently seals up the joints so close, as to prevent the top, or side water, from being admitted into them: and often times the cylinder itself is filled up. Pebbles filling up the bottom, and cord wood, are sometimes used; but the current of the drain water is much obstructed by them; and, in a few years, I have seen them filled up by the friction and sediment of the water passing through them; nor will turf, placed on shoulders, or in the form of a wedge, with its bottom angle taken off, continue good, in any instance which I have seen, for more than twelve or fourteen years, oftentimes *much less*. Two side stones, and a coverer, of any kind of rough stone, that will split, are, in my opinion, the best materials for close drains; where that cannot be had, clay moulded and burnt, in the form of ridge tiles for houses, (with holes on the top and

each side) of any required size, to be placed on ling
&c. in order to keep them from sinking, where the
bad, will answer very well, in many situations,
cheaper and better bottom for foughs than almost a

MANUFACTURES.

COMMERCE and manufactures have been carried
a great extent in this district: the toy and hardware
&c. of Birmingham and its vicinity, and the ribbon
tammy trade, &c. of Coventry and its neighbourhood
well known. The good or bad effects which commerce
manufactures are likely to have on the agricultural
district, depends on many circumstances; but they
have hitherto, in my opinion, been good, by furnishing
manure, such as soot, horn-dust, malt-dust, rags, &c.
coal-ashes, the refuse of dyers, &c. and all the various
putrid manure for the improvement of land, by clearing
its produce, and by giving employment to superfluous
labour. As this subject is, in some degree, connected with
the culture of common fields, I beg leave to say a few words
on that subject.

INCLOSURES.

ABOUT forty years ago, the southern and eastern
part of this county consisted mostly of open fields, which
were chiefly inclosed, at an expence, on the average, of
£10 per acre, when frugally managed; which, in many

was not the case ; and, from the best information which I can obtain, these inclosures have produced an improvement of near one-third of the rents, after allowing interest for those expences, and, in many instances, much more, upon a twenty-one year's lease. There are still about 50,000 acres of open-field land, which, in a few years, will probably all be inclosed. Many of the open fields, which have been inclosed, are converted into pasture, particularly in the southern and eastern parts of the county, which are let at high rents, (from 15s. to 35s. per acre) and on which a much improved breed of cattle and sheep are kept and fattened. If the increased produce of these inclosures, and of those in the neighbouring counties, be taken into consideration, and also the advanced price of butcher's meat, it seems to prove, that either population or luxury (or perhaps both) must, on the whole, be immensely increased. These lands, being now grazed, want *much fewer hands* to manage them than they did in their former open state. Upon all inclosures of open fields, the farms have generally been made much larger: from these causes, the hardy yeomanry of country villages have been driven for employment into Birmingham; Coventry, and other manufacturing towns, whose flourishing trade has sometimes found them profitable employment:

It may be granted, that the fewer men and horses any given tract of land requires for its proper management, the greater will be its produce for market; and that the super-numerary labourers, which must have been fed and employed in the cultivation of small open field, and other small farms, are employed, with much more advantage to the public, in the different manufactories of this county; but if trade in general should, for any great length of time, continue bad, the Board will be much better able to judge of the consequences than myself, and will also see how much the peace and prosperity of this country depends on its trade, in the train in which things now are; and it seems fortunate, at this period,

ried, that the creation of a new kind of property
 employment to so many thousands of the laborious poor
 inland canals, by which, on the return of peace, there
 will no doubt be considerably increased, the culture of
 waste lands be promoted, and manufacturing towns
 We may then think ourselves happy, that Birmingham
 Coventry are within this district; and, on the whole, the
 advantageous employment for an immensely increased
 population.

PRICE OF PROVISIONS.

GRAIN of all kinds has been much more regular
 price since canals have been in use: the London price
 regularly states its price. Mutton and pork have
 the last three years, about $4\frac{1}{2}$ d. per lb. on the average
 $3\frac{1}{2}$ d. lamb from 6d. to 4d. and veal from 6d. to 4d.
 Whether the price of provisions is likely to be steady
 or to fall, depends so much on seasons, a regular
 crops, on the cultivation of waste and crown land
 a flourishing or a bad trade, that nothing can with
 be said on that subject, but what must have reference
 or similar circumstances; but, on the whole, my
 that, if trade should be good, the price of provisions
 advance.

LABOUR.

THE price of labour is in some degree governed by the Birmingham and Coventry trade in the vicinity of those places, and is there, generally speaking, one-fourth more than in the remote villages. In those country situations, in harvest, labourers have 1s. per day, and victuals; and, if extraordinary hands are wanted for the harvest months, or indeed at any other time of the year, their wages depend on the necessity of the work, their skill in particular undertakings, and sometimes on the goodness or badness of trade. At other times of the year, labourers have from 4s. to 5s. per week, and victuals; and from 6s. to 8s. per week, without them; but sometimes with, and sometimes without, an allowance of small beer. The hours of labour are commonly from six o'clock in the morning till six in the evening, while there is day sufficient for that purpose; and, where there is not, from light till dark. Women have, in hay-harvest, from 6d. to 8d. per day, with small beer. The time of labour is from eight o'clock till seven. In corn-harvest they have 1s. The price of reaping wheat is from 5s. to 8s. per acre, with an allowance of about two gallons of beer per day to each man, and sometimes a hot dinner; for cutting barley and oats, from 1s. to 2s. per acre, proportioned to the strength of the crop; for pease and beans sowed, from 2s. 6d. to 5s. per acre; and for cutting grass, from 1s. 6d. to 2s. 6d. per acre, with an allowance, as before, of small beer. Threshing wheat or rye, 1s. per bag; pease and beans, 4d. per bag; barley, 1s. 6d. per quarter; oats, 1s. 2d. per quarter.

PARO-

PAROCHIAL PAYMENTS.

THE poor's rates, and other parochial payments in this county, vary much, and, on the average, amount, I guess, to about 3s. in the pound on the rents. In Birmingham, and other manufacturing places, they are from 4s. to about 5s. in the pound, as trade is better or worse. In many of the adjoining parishes, they are very greatly pressed with poor's rates, particularly at Foleshill, near Birmingham, where they are, this year, 12s. in the pound. The rapid growth of manufactories in this county, the great increased value of money, and a continual increase of the poor's rates, are incontestible facts: but I am inclined to believe that the latter does not arise, in country villages, from want of industry or effort in the labouring poor, but from the small wages they receive from parish officers only what they ought to receive in wages. If it be admitted, that the value of money is now by one half than it was one hundred and fifty years ago, that the wages of agricultural labourers are not, on the whole, advanced, since that time, much more than one-fourth, and that their wages at that time were not more than sufficient to support themselves and their families, it follows that such a deficiency (of about one-fourth) must have greatly added to the burthen of the poor's rates: that the rates may still continue to advance, from the same ancient causes, the following considerations will, I think, render probable; a vast number of those who are employed in manufacturing towns, are parishioners to different villages, particularly those in their vicinity; whenever infirmity, or a check in trade, happens, these men are not supported by those who have had the benefit of their labour, but are thrown for subsistence to their respective parishes; which seems a very hard-ship that I hope the wisdom of the Board will find means to lessen or remove.

OX TEAMS.

OX TEAMS are used in some parts of this county ; but in a very small degree, compared with the almost general use of horses : and this arises from prejudice, which may probably be removed by the Board. In the management of farms, lime, coal, &c. must generally be drawn along hard roads, to a considerable distance, and their produce be conveyed to market by the same means, which is certainly best done with horses. I am, therefore, apt to believe, that few farmers can use oxen advantageously, except those who want the labour of more than seven or eight horses ; but all team work, beyond that, would, I am persuaded, be highly profitable to the farmer, and greatly beneficial to the public, if done with oxen. My reasons for fixing seven or eight horses as necessary to be kept on the larger farms, are these : many of the greater works in husbandry, are done (in harvest, &c.) with two *going* and one *standing* waggons or carts, (according to our phraseology) which will employ that number of horses, as will also a nine inch wheeled waggon for lime, coals, &c. &c. Lord Aylesford keeps fifteen working oxen, (three teams), for home work, which are supported at *half* the expence of an equal number of horses. It may possibly happen in particular situations, which have the advantage of canals, that both the large and small farmers might do their whole business with oxen ; because, in those situations, not any team work on hard roads, or to great distances, would be wanted.

CANALS.

THE canals that pass through this county, are, one from the Wednesbury and Dudley coal and lime works to Birmingham, and from thence to Fazeley and Fradley-Hall to join the Staffordshire grand trunk, from Fazeley to Atherstone, Bedworth, and Coventry; one extending from that at Longford to Braunston and Oxford; one from Birmingham to Worcester; one branching out from Worcester, one way to Dudley, &c. and the other to Stratford on Avon; and one from Birmingham to Walswick.

AGRICULTURE SOCIETIES.

THERE are not any societies instituted in this district for the improvement of agriculture or breeding. Such institutions would, doubtless, be of the greatest service. But though there are no public institutions in this district for the promotion of agriculture and breeding, yet many of the occupiers of land have a spirit for improvement, that will accept of honorary excitements, or any other distinguishing mark of approbation which the Board may think proper to bestow, may incite them to undertake every experiment in agriculture or breeding, that they may reasonably expect or recommend.

TURN FOR IMPROVEMENT.

THE lower class of occupiers, (and indeed some of the higher) can only be induced to adopt alterations or improvements from observing the success of those who unite profit with practice.

practice with rational theory; and it must be confessed, that chimerical theory and expensive practice have sometimes been very properly rejected by them. Perhaps experimental farms may be instituted by the Board, in different parts of the kingdom, for the improvement of agriculture and of breeding, where rams and bulls for the use of the lower class of farmers, graziers &c. may be kept, which I humbly conceive would be a measure of great utility; for it must be observed, that the high prices of Leicestershire, for those animals, have extended into this county; which puts any improvements in the breed of cattle or sheep out of their power to obtain.

HORSES...

RESPECTING the breed of horses there is less difficulty. There are many fine cart, coach, and hunting horses bred in this district, from excellent stallions; which (contrary to the custom relative to bulls and rams) are used at very reasonable rates. The two former sorts answer the breeder's purpose, of profit, much better than the latter; and are oftentimes, after being used some years for agricultural purposes, sold into heavy or light carriages, from twenty to sixty guineas each.

CARRIAGES.

THE larger occupiers of land, and public carriers, have, many of them, six and nine-inch wheeled waggons for the road; but those most generally in use for harvest work, and

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employed

employed by the smaller farmers, have narrow wheel carts most commonly used for husbandry, have wheels six or nine inches broad.

The turnpike roads through this county are tolerably good, some of the private roads are well managed, and in good repair: but most of them very bad, from a scarcity of materials, and from a considerable neglect, or injudicious execution of the statute duty, occasioned by the want of permanent surveyors being appointed. The road from London, and some other principal towns, are generally twenty yards wide, with hard materials, which is not proper, where the revenue of such roads will permit. In this county few of the roads can be made on that principle, on account of the great expence which would in many instances be 1000l. per mile. The most that can be feared, be expected on the private and greatest parts of public roads here, is to have them well formed, and well gravelled to the width of twelve or eighteen feet, to obtain a hard middle track. From these considerations I led to state my opinion to the Board, on the effect of carriages now in use, on different roads, &c. On private and other roads, made with materials that will resist carriages loaded according to the weights allowed by act of parliament there is no doubt but what the broadest wheels are the best; but as I have never seen materials that would support such loads, (of six, seven, and some of them eight tons, including the carriage) without being crushed, (a few pavements of hard pebbles, &c. excepted) it appears to me, that carriages allowed to draw such weights are not proper for this county, or perhaps any other. On these roads, and some near London, I have followed with attention heavy waggons, which, from the breadth of their wheels, are allowed to carry the greatest weight, and have always passed almost every loose stone, flint, &c. over which the wheels of such carriages pass, crushed, and many of them even

to powder ; and, on such parts of those roads where the materials are firmly united, most of the uneven projecting points broken or smashed, nearly in the same manner ; for it is evident, that every loose stone, or projecting point of the road which happens to fall within the range of such wheels, must receive on that point the greatest possible pressure, producing the effect before described. Hence, on the London and other roads, arises that perpetual necessity of scraping or washing them in winter, and (in part) those immense clouds of dust in summer. If these premises be true, broad wheeled carriages allowed to carry such weights, instead of preserving, destroy the roads ; and some other kind of carriages seem necessary for common roads made with common materials.

It must be granted, that some advantage is obtained from horses being drawn double in heavy carriages ; and yet I cannot resist the temptation of submitting the following facts to the consideration of the Board, which may lead them to investigate the matter more fully, and to recommend the proper remedy. Waggon with nine-inch wheels, drawn by eight horses, are those most used by London and other carriers ; which, with their loading, are allowed to weigh six tons. The roads in the midland counties have seldom more than a middle track in winter, in which all carriages constantly pass. In consequence of this, ruts or channels are made, sometimes very deep, which render it difficult, oftentimes unsafe, and at all times unpleasant for horsemen and light carriages to pass. Wheels of different widths, and horses from being drawn double, thus passing along the same ruts, the materials at their sides and bottoms are constantly disturbed from their bed, and as constantly crushed by the heavy broad wheeled carriages which pass over them. Permit me then to suggest, that six-inch wheels, with the tier perfectly flat, on all carriages for the purposes of agriculture and public carriers, drawn by four or five horses, one after the other, would prove most useful and least injurious to
the

the roads, if limited to a proper weight, perhaps four
 winter and summer. Many of the private or bye-roads
 this and most other counties, are so narrow as to ad-
 mit only one track; and chiefly with very deep ruts. On
 roads, horses drawn double cannot be used; but six-
 wheeled carriages, with the horses drawn single, might
 be used with very great advantage: and, if such carriages
 were used generally on the turnpike roads, where there is a
 middle track only, the path beaten by the horses thus drawn
 would be very commodious for horsemen, and would
 be one part of an excellent quarter for light carriages.
 Ruts formed by carriages, all having the same width
 of wheel, six inches, and of such weights as would not
 crush the materials which are now made use of, would
 be kept in repair at one-fourth of the expence which they
 are at present; and, in all cases, where a small stream of
 water could be taken into those ruts, having a gentle descent
 that expence would be much lessened. The roads
 at London, and other places, which are well formed, and
 levelled the whole width, would, I believe, receive much
 less injury from carriages of this kind, than from those now
 made use of; because the materials which form them would be
 destroyed by their weight: for which reason, and from
 the constant meeting of carriages on such roads, no ruts
 could be there formed.

SHEEP.

THERE are, generally speaking, two sorts of sheep
 in this county; a larger or polled sort for pastures, which
 weigh from sixteen to forty pounds per quarter, some more
 when fat; and cut from six to fifteen pounds of wool.

The average size of this kind of sheep, when sheer-hogs and fat, is about twenty-two pounds per quarter, and their fleece weighs eight or nine pounds: the wool of the former is combed for Jersey, the latter for hosiers, and used by clothiers. Some of these pasture sheep, bred by Mr. Palfrey, near Coventry; by Mr. Grimes, of Baggington; Mr. Harris, of Hill; Mr. Barnet, Mr. Blakesley, of Exhall; Mr. Swain, of Foleshill; and several others, are, in point of size, beauty, and profit, equal to any others which I know in the kingdom. A smaller sort, some with black and some with grey faces, are also bred for commons, open fields, and inferior pastures, which weigh from eight to twenty-five pounds per quarter, when fat, at two, three, or four years old; and cut from one to five or six pounds of wool each, which is used by clothiers; some with and some without horns. Some few Wiltshire sheep, and others of mixed breed, are also bred. Great numbers of sheep are every year bought from distant counties; ewes for making fat lamb, and wethers for feeding. Folding sheep is here but little practised, and seems not to be well understood; perhaps our long-woolled sheep are not so proper for that purpose as those which have shorter wool. In the open fields, and about Edge Hills, some few sheep are folded. Lord Aylesford, also, uses a large flock of Wiltshire sheep, in that way, to much advantage; and by which the better land on his farm, and in each particular field, constantly improves that of inferior quality, instead of the reverse; as is the case where sheep are left to choose their own lodging.

LEICESTER BREED.

There has also been lately introduced to this county a kind of sheep called the *new Leicestershire*, which are much lighter in their bone, offal, and wool, than the old Leicestershire,

shire, or Warwickshire breeds ; they are neat animals, much resemble the better kind of Wiltshire sheep, in their legs, wool, and faces ; but have no horns. Such has been the reputed excellence of these sheep for becoming fat, with a much less proportion of food than any other kind. The rams of this new breed are said to have produced a profit of 1000 guineas a year to their owners, and exorbitant profits from that sum downwards. There is a report of a combination amongst some of the breeders of sheep of that kind who are said to have agreed not to take rams to market fairs, nor to let one to any person who does so ; not to more than a limited number of rams, and at not less than a certain price ; not to set a value on their own rams, but to receive offers from those who choose to hire them ; not to shew any number of them together, in order to prevent comparison ; not to sell any culling ram or ewe of the new breed, except slaughtered ; and, by select meetings at markets, fairs, &c. and by every other means in their power to keep the ram business in their own hands. There is in this a combination, something so repugnant to public spirit and utility, that it must in the end defeat its own fordid purpose.

As opposition sometimes brings on useful discussion, I shall, on this ground, remind those breeders, that, about twenty years since, they recommended, in the strongest possible terms, a breed of sheep almost totally covered with wool, and that were, in appearance, dwarfs. These sheep they asserted, had also the gift of becoming fat, with very little food ; and, as they are now totally out of use, I cannot place so much confidence in the assertions of those breeders as I otherwise should have done ; but yet it must be admitted, that the new Leicestershire breed are greatly preferable to those which they *formerly recommended*, and for some lands a valuable breed of sheep. As it is the business of a quack to conceal the composition of a nostrum by which he fills his pockets, so also has it been the practice of the

ram-breeders, to conceal the manner in which their *new kind of sheep* have been bred: on that account I shall endeavour to explain what their owners have, with so much care, endeavoured to keep from the public. I have called them a *new breed of sheep*, because that fact they (the breeders) have laboured hard to establish: and, taking that for granted, it establishes, beyond contradiction, another fact, viz. that this *new breed of sheep* must have been a *cross* from some others.

HOW BRED.

From the similitude which these sheep have in their wool, and in other particular points, to the better sorts of Wiltshire, and from their similitude also to the better sorts of old Leicestershire and Warwickshire sheep, I have little doubt but that a cross, or crosses, from those kinds, has produced the new breed of sheep in question. In this opinion I am confirmed by my own experiments, and by the judgment of others; and I have here sent a sketch of a sheer-hog bred in that way. It appears to me, that great care is necessary in changing the breed of sheep or cattle from one country to another, where the air, climate, or food, in any material degree, differ; and that change (when necessary) may be best effected by judicious crosses with other animals, whose shape, size, or wool, &c. have those points or qualities which the breeder most desires to alter or correct in his own. A description of those crosses, that would probably produce useful animals, of different kinds and sizes, different sorts of wool, &c. adapted to the richness or poverty, heat or cold, exposed or sheltered situations, in the different districts of this kingdom, would, I am convinced, be a work of much public utility; for it appears evident, that any material change in those circumstances must require animals adapted to them.

The excellence of this new breed of sheep (as it is called) seems to arise from the smallness of their bones and offal; and I have no doubt but that judicious crosses from every other kind of sheep in the kingdom, by attending to those circumstances, may be bred with as great an aptitude to become as the celebrated Leicestershire breed.

DAIRIES AND CATTLE.

THERE are fine dairies of cows in almost every part of the district, and much excellent cheese made; but I am of opinion, that many of what are called the better bred cows, are but indifferent milkers; and that the average produce of a cow is not more than three hundred weight of cheese in a season. The famous breed of cattle sold some years since by Mr. Fowler's of Rollright, on the edge of this county, for *enormous prices*, were supposed superior to any other in England. Mr. Fowler obtained the origin of that breed from Mr. Webster of Canley near Coventry, who had improved his stock by crossing them with the long-horned Lancashire breed of cattle; and from his stock may be traced many of the finest cattle that are now in the county, of which there are great numbers. Yet, on the whole, there are greater numbers of coarse-made cattle in this district; many of them which are made in a handsome frame, are (as was before observed) greatly deficient in that most essential article, milk. A cross between the Warwickshire long-horned and the Holderness short-horned breeds, would probably be an improvement to the breed of cattle in this county. The former are oftentimes narrow and ill-made in the quarters, and many of them coarse in the neck and

quarters; the latter are mostly, in shape and make, the reverse of the former, and are generally esteemed *good milkers*. One instance of such a cross I shall take the liberty to relate.

Lord Aylesford had some years since an Holdernefs cow of uncommon size and good shape, (bought from Mr. John Deverill of Willford); and had also a large coarse long-horned bull. The produce of those two animals was a bull-calf, remarkable for his beauty, which being cut, and, from three years old, worked excessively hard in his Lordship's ox-team till he was seven years old, was, about Christmas, taken from the team, and fed with hay of an indifferent quality, till the first week in May, when he was turned to grafs; where he continued till the latter end of November, was then housed, kept with oil-cake, cut straw, hay, &c. till March; at which time he was the fattest and most complete ox (his horns excepted) that I ever saw, and was sold to Mr. Beaufoy of Meriden, (never shewn for money) *to kill*, for fifty guineas, without abatement.

THE PROFIT OF SMALL ANIMALS FOR GOOD LAND
CONSIDERED.

Formerly the breed of cattle and sheep in this county was larger than it is at present, because the finer-boned rams and bulls have been of late bred from; and although it is believed by many, that this lighter-boned stock are best on particular sorts of land, yet numbers of well-informed graziers are of opinion, that large cattle and sheep, on rich fen and other good lands, will answer better than the smaller kinds. The land here meant may probably be let at 32s. per acre, and its whole produce of green food, in one year, be eight tons; in that case, each ton of green food will cost about four shillings only. Large cattle or sheep will sometimes produce a profit equal to the whole value of several small ones, and are

said to grow fat sooner *than small animals of an equal size*, because they lie thinner on their pasture, and staid longer. I know that cattle, which are well SELECTED, make more *meat* on the *roasting* and *better joints*; but I do not know of any breeders that can with truth boast of *such a B*

FRENCH OXEN.

In some parts of this county, French oxen have been introduced, and, as far as I am able to judge from the few instances, and the information of disinterested men, they are much inferior to those of our own country.

DEVONSHIRE CATTLE.

Devonshire cattle have also been used, and bred in this district; and they are spoken highly of by the farmers. I have lately seen some beautiful *little* cows of that kind, at Mr. Moor's of Charlcot, who is experimenting with them, and with French oxen. It appears that the Devonshire cows give but a small quantity of milk, from which most material consideration, and from their small size, it appears to me, that they are not proper for the better kind of land in this county. From a comparison of these circumstances, and from the better success of others, the Board may probably be led to investigate the subject more fully, and to ascertain what kind of cattle is most profitable to be used on rich pastures; but on poor pastures, in warm situations, where large animals can neither be raised nor made fat, the present mode of breeding them, with light bones, &c. may probably be found to answer best.

FIGS.

The breed of pigs in this county had formerly remarkably large ears; they would, when two years old, and fat, weigh from sixteen to forty score each: but that sort has of late been mixed with the Berkshire kind; and their produce, though of a less size, is thought to be more profitable. ●

WASTE LANDS.

THE waste lands in this county, including the roads, I have estimated at 120.470 acres; and, like all other lands, the first step to be taken for their improvement is draining, where necessary. If that is effectually done, or if naturally dry, the propriety of its future use, for the purposes of agriculture or planting, must depend on its situation, as to roads, markets. and *manure*; and more especially those sorts of manure, lime or marl, which, in the first instance, are most necessary for bringing it into a speedy state of production, and on its being tythable or tythe-free. If, from these circumstances, converting it to wood-land should be found most proper, the nature of the soil will best point out the kind of timber and underwood proper to be planted; but, however this may be, all the new hedges or fences which are hereafter to be made, for the subdivision of waste lands or open fields, ought, in my opinion, to be abundantly planted with all the different sorts of forest trees, adapted to the nature of the soil. This I mention, because it has been much neglected in Warwickshire, and many other counties; an opinion having prevailed, that the injury done to hedge-rows, and to the adjoining grounds, by such planting, is more than equal to the value of the timber that can be so raised. I have before supposed

posed the average size of the new inclosures that have been made in this county to be fifteen acres ; if so, each close, by fencing one side and one end, has 550 yards in length, of which timber might have been planted with the quick, &c. and if five yards and a half be allowed for two trees to be thus planted, (which is, I think, sufficient space for a few years when properly pruned and trained) then each close of the size would have 200 trees growing on its fences for some years, which might be profitably reduced by taking out the underlings, so as to leave near 100 trees for timber, which in some instances, perhaps many, would in 100 years or less be worth the fee-simple of the land they surround, without much, if any, injury to the occupiers ; because, in closes of that size, their shelter and protection from cold winds, &c. may probably be equal to every damage done by their growth. From these, and other considerations, it may be found advisable for gentlemen of landed property, to take the management of all fences into their own hands, as is the case with some whom I know, by which posterity may have an abundance of timber for the navy, and other purposes, and may, looking forward but few years, receive more than ample recompence for all their expence and trouble. Sutton Coldfield and Sutton Park, with the commons adjoining thereto, at Hill, Ash-Furlong, New Shilton, Berwood, &c. are about 10,000 acres, the greater part of which is a hungry sand and gravel, chiefly covered with ling ; but the vicinity of Rushall lime-works, and the town of Birmingham, and circumstances greatly in favour of the cultivation of the vast wastes, which might (I have no doubt) be done with great advantage to the public and the land-owners. Coldhill and Bickenhill heaths, about 1000 acres, now under improvement, are still of an inferior quality ; yet some parts of them will soon become useful land. Balsal heath, and other wastes nearly adjoining, in the parishes of Berkswell, Birston, Knowle, at Wroxall, Shrewley, Hazelcy, Lapworth, Packworth

Packwood, Badesley, &c. are about 5000 acres. These commons, and those in other parts of the county, have a large proportion of land, which, under proper cultivation, would become very useful for the purposes of tillage, grazing, &c.

Having here spoken of waste lands, it may be proper to mention tythes in kind, as a great, and, in some cases, an insurmountable obstruction to their effectual improvement. It is but justice to the clergy, in this county, to say, that, *on the whole*, they are more reasonable in their demands for tythes in kind, than the lay-impropriators; and, where lands have been regularly and well cultivated for a great length of time, there is no great hardship in the occupier paying them, as, in that case, it is chiefly a tax on the land-owner, originating in custom or title, prior to that by which the estate itself is held; but, where much improvement is wanted, and especially in the cultivation of all fens, bogs, and other barren *unproductive* waste lands, the matter is widely different; for, in such cases, almost the whole value of the land depends on personal labour, skill, industry, and the advance and risque of private property: therefore, something seems necessary to be done to remove so great a bar to the improvement of *such unproductive land*. Whether corn rents, proportioned to the value of the land, could be adopted, or any other equitable means could be devised for that purpose, the wisdom of Parliament, under the suggestions of the Board, is best able to determine.

PARING AND BURNING.

PARING and Burning may, in some instances, be of great use, where the surface of land is so matted together as not to be easily separated by any other means, and where the under

stratum is a peat of sufficient depth; but I have in other cases, that operation performed in this without great injury to the land; indeed the practice exploded, except in the first-mentioned case.

WOODS AND UNDERWOOD

THERE are large woods and much timber of Warwick, particularly in what was formerly Forest of Arden, extending through a large part of the middle part of it, which consists of almost all kinds of forest-trees, but more especially of oaks. The woodlands of this county are, in general, kept under a regular system, the underwood of which is cut down every three or twelve years, and converted to various uses, such as broom-sticks, mop, and broom-sticks, faggots, brooms, hoops, &c. (seven feet and a half long and three feet and a half high) by being wattled round nine upright stakes, which are driven into the bottom, to assist in fixing them as a temporary fence for eating off turnips, and other uses, for which it is an excellent fence, during three or five years, if properly managed and care of, and are sold at 5d. each. The white poles (which are twenty-four years growth) are converted into various uses, such as clogs, makers, turners, &c. Much of the value of our woods depends on a proper selection of plants at each cutting, and on continuing growing for white poles, particularly ash and oak; and this is best done by those who have the management of their own woods; for it is evident, that those who are only employed for a round or two, (as it is here called) will pay more attention to their own profit than to the future

woods, however they may be restrained by any agreement. The price of these woods is from 3l. to 8l. per acre, in proportion to the value of the land, as there are more or less of white poles, and the quantity of oak timber set up. But those woods which grow oak well, answer best by being gradually converted into groves of that timber, which has been done in this county, by setting up oaks, either from maiden-plants or stubs, and by previously dibbling in acorns where wanted. By this means the underwood will be reduced in its value, after two or three falls. In woods which are brought under this management, great care is necessary in *pruning* and training the oaks when young, during the three falls here alluded to ; for, if not properly pruned when *young*, all that can with safety be done to the branches of an oak, when the heart is formed in them, is to restrain their growth at some part where they divide into a fork.

By this management, upon good land, under favourable circumstances, you may have 484 oak saplings on an acre (reckoning ten square yards to each plant) at the end of three falls, or thirty-six years, without having much diminished the value of your underwood ; or if so, that diminution may be more than repaid by taking out some of the underling oaks : at the end of every twelve years, as many more of the underlings may be taken out as need requires, which will certainly be of more value than the underwood could have been. When, at the end of ninety-six years, having taken out 284 underling oaks, you may have 200 left on each acre, worth 30s. at an average, each tree : these may then be all axe-fallen, and their numerous shoots trained up as before ; or, if fifty or sixty of the best of those young trees were selected, and left to grow on each acre, they might, in fifty years more, be probably worth five or six hundred pounds.

DRILL HUSBANDRY.

THE drill husbandry is practised with Mr. Cook in this county, to the south of Warwick, by Mr. Charlcot; Mr. Thomas Jackson, of Alvaſton; Mr. Boot, of Atherſton on Stour; Mr. Bolton, of V; Mr. Chandler, of Kington; and by ſome other parts of this diſtrict. On loamy and other rich drill husbandry may be found to answer, if the making good turnip fallows is adhered to; but not except in particular ſituations, where the ſoil is rich, or where great plenty of *putrid* manure can be had. But the opinion of the greater part of the farmers in this county is in favour of the broad-caſt practice, and particularly ſo reſpecting barley and oats, with which crops are generally ſown. Mr. Boot, of Atherſton on Stour, has been longer, and more largely in the drill husbandry, than any other farmer in this part of the kingdom. On looking over his farm, I was ſurprized to find him to recommend the practice either in his fields (turnips), or in his rick yards, or his barns; but the reverse. The ſoil is poor, and full of couch-graſs; and the latter ſort of crops. His rotation of crops on the light lands is wheat, barley, and clover; he ſometimes lay a fallow for turnips, and, previous to the ſowing of the vetches, as ſoon as the wheat is houſed, on ſuch lands as is clean; after the turnips barley ſeeded down, and the clover ſeeds grazed, or mown one year; then wheat, &c. As he conſtantly drills his ſtrong land, and as the ſoil has oftentimes prevented him, by that method, from ſowing that ſtrong land, it ſometimes lies fallow for two or three years together, and no ſpecific courſe of cropping is purſued upon it, as I was informed by his neighbour Mr. Boot was unfortunately from home, when I called on him.

nor has his produce, by about fifteen years drill husbandry, been nearly equal to that of his predecessors in the broad-cast way. Some of my information on this subject may, it is possible, have been given with prejudice. It must be confessed, there is something so pleasing in the theory of what is called the New Husbandry, that every well wisher to his country must be desirous of contributing to its practicability and success. No one can dispute the advantage which is obtained, by drilling, of destroying those weeds which grow on the *surface* of the land ; no more seed is made use of than is absolutely necessary, and that is put in at the proper depth for vegetation ; yet, as something depends on seasons, much on scarifying, hoeing, and other circumstances, doubts have arisen amongst practical farmers, on what kinds of land this system of husbandry can be profitably employed. If what seems doubtful be admitted, that the produce of land by the drill is more than by broad-cast, it must also be admitted, that the expences of the former will be greater than the latter. Upon the whole, the drill system must be left to time, and the effect of successful practice to establish in this county. Mr. Plant, of Bedworth, has for some years hand-hoed his wheat, sown in the broad-cast manner, and obtained abundant crops by it. Mr. Thomas Jackson, of Alvaston Pasture, near Stratford on Avon ; Mr. Moor, of Charlcot ; and Mr. Bolton, of Wellbourne, in the same neighbourhood, and some others who are good drill farmers, will, I have no doubt, at some future time, communicate the result of their experiments and practice to the Board, if called upon.

One shrewd remark of a wealthy broad-cast farmer, during my enquiries on this subject, I cannot help repeating : “ Several of these drill men, said he, rent better and cheaper farms than I ; they boast of obtaining a much greater

" quantity of grain per acre than I do, and with
 " feed: but I know that some of them do not get

GREEN CROPS.

THE green crops cultivated for cattle in this country consist most of the artificial grasses, turnips, vetches, potatoes, bages, carrots, &c. Red and white clover, trefoil, &c. are in general use, as are turnips also. Vetches and spring vetches are much used. The former (vetches) are sometimes mixed with a few oats, or beans, to keep the soil from being too bare, and are sown about Michaelmas, on lands (either broken up or stubbles) which are intended for a wheat crop, if clean, for turnips; and the latter are sown in February, April, and at other times between those periods, to produce a constant succession of them, fit for horses, sheep, &c. to feed on. The manner in which they are used, is to cut them while green, and to lay them in the fold with sheep: these tethers or folds are so managed as to give an equal distribution of manure to the land. The best managers cart them to their stables, yards, &c. sheds; and there, by using plenty of straw, &c. they raise a prodigious quantity of manure. Early green crops, well watered meadows, and clover, are sometimes used in the same way. The improvement and profit of well managed farms may be said to depend more on the proper use of these foods (cut and given to cattle, &c. in the manner mentioned) than on any other single article. This position cannot be impressed on the public mind too

Turnips are sometimes used, in nearly the same manner, and are often carried to grass fields.

Potatoes, sown in drills, I mean for cattle, are gaining ground; but cabbages and carrots seem to make but little progress. From some experiments made by Sir Roger Newdigate, red cabbages seem better than any other; they grow to a good size, bear the winter well, and are more solid in their texture than any other sort. Burnet and Lucerne have been grown successfully, on a *small scale*, on rich lands, but are not at present likely to be much cultivated; nor are cole or rape in much request.

The Swedish turnip has been lately introduced, and is said to stand the winter much better than any other green food. That fact I have reason to believe: but the two last winters having been so mild, their remaining perfectly sound through them till April, (which I saw) is not an absolute proof that they would have done so if those winters had been more severe. Vetches and buck-wheat are sometimes, not often, sown on fallows, and ploughed in for manure. Chicory has been tried by Mr. Moor, of Charlcot, on a large, and by Mr. Thomas Jackson, on a *small scale*. The former gentleman, I am told, dislikes it; but with the latter it answered very well; was twice cut, produced a large quantity of green food; and was eaten greedily by his horses.

LIME.

HAVING already mentioned the manures made use of from the large towns of this county, I shall here beg leave to say something on the subject of *lime*, because its use is much, and very expensively mistaken in many parts of this district;

vast quantities being every year used improperly seems to have no other effect than assisting to improve the land on which it is spread. I shall endeavour to show the real use, by reciting some experiments, which I have made in years since, in order to ascertain the most speedy method of bringing barren waste-land into a productive state.

Some years ago, Lord Aylesford having drained Meriden Heath, (and settled the *vicar's corn rent*) sixty acres of it were ploughed up, in three months, and in the spring following, well harrowed the furrows, and in that state left to rot till the following autumn. The whole was then cross ploughed a second time. In order to pulverize ten acres of the best of the land, a roll made five feet and a half long, furnished with strong sharp plates of iron, so that the sharp edges of the plates of this roll, when loaded, and drawn over the land, cut through the whole surface as deep as the plough did at the first ploughing; and by repeated harrow operations of this roll, the land had the appearance of being sufficiently well pulverized for a crop, except that after those repeated operations a great quantity of the roots of different coarse grasses, &c. were brought to the surface: these we collected into heaps, burnt, and mixed with ashes, which produced a good dressing. The land was sown with oats, in March, and seeded down with clover and grass; the oats, when cut and housed, the next year did not produce so much as had sown the land, and was not worth saving. Three other parts of the same piece of land (each) were pulverized, and the roots, &c. burnt, and mixed with the ashes, at the same time. One part was trebled with a flock of one thousand sheep; one part was well covered with good rotten dung; and the other part was well covered with three pieces were also sown with oats, clover,

That which was folded, had not a bag of oats on an acre, nor were the seeds worth saving; that which was dunged, succeeded very little better; and that which was limed, produced a most excellent crop of oats and seeds. Another piece of ten acres, prepared in the same way, was marled, and produced a tolerable crop of oats and seeds. The remaining ten acres were limed, prepared, and sown with rye, at Michaelmas; and the spring following, seeds harrowed in, which produced a very fine crop. Upon the future management of this land, that part of it which was before limed, continued constantly productive; and the other parts not so till they were limed; the piece that had been marled only excepted, which, from its calcareous quality, I consider as having the same effect on vegetable substances as lime, with the addition of earth of such a quality, as, uniting with loose peaty soils, makes an excellent manure for them. From these experiments, and from many others which I have made with *lime*, both on cultivated and uncultivated lands, I am clearly of opinion, that the chief use of lime, perhaps the only one that can answer the expence at which, in some parts of this county, it is brought home (three pounds for a common waggon load) is in the cultivation of heath, peaty or common lands; I might say of all *other* lands, where the parts of vegetables have from time to time been permitted to fall on the surface of the earth, and there, by long accumulation (not being of themselves capable of rotting) to produce a variety of coarse surface, sometimes strongly matted with roots, and sometimes a light, and, as it were, a frothy surface, &c. Lime in such cases will seize on all those imperfect vegetable substances, and by its septic quality, convert them into vegetable mould, in which all kinds of grain and grasses grow luxuriantly. In well pulverized light soils, where the turf, and other vegetable substances, have been well rotted before using it, I never could perceive that lime was of any use. From these premises it appears

appears evident why lime forms so essential a part of the composts which consist of earth and vegetable matter.

NEW EXPERIMENT.

MR. BLAKESLEY of Exhall, (who is able to furnish much valuable information on the subjects of agriculture and husbandry) has lately made a valuable experiment, by *mixing* a waggon load of tan (after it has been used by the tanner) with a waggon load of *unslacked lime*, which lay together for some time, and was used as a top dressing for turnips and for other purposes, and found to be a most excellent manure; perhaps it contributes to open and separate the parts of the soil, but, however that may be, when constantly used without an adequate provision of turf or vegetable matter to act upon, lime will, in my opinion, totally exhaust the fertility of land. The principles on which lime acts, and the very improper use which is made of it in many parts of the country will, I hope, be some excuse for saying so much on this subject.

A P P E N D I X

TO THE

AGRICULTURAL VIE

OF THE COUNTY OF

WARWICK.



APPENDIX.

No. I.

SHIRE, like the other counties in England, being divided into hundredings, in the whole, nineteen chief constables, who issue precepts, and collect rates, &c. from the petty constables in each parish or constablewick, are not extensive; if the Board were to obtain a Report from each of the constables, the particulars of which would be furnished by the petty constables of the respective parishes, at a small expence, conformable to printed Queries, to the chief constables, the *exact state* of agriculture and breeding, and the particular improvements, not only in this county, but in every kingdom, might be annually and accurately known. Papers, which Messrs. Nicholman and Mr. Slater, two of the chief constables, in part filled up, and hereunto annexed, may best explain my ideas on that subject. The expence of procuring of this information being trifling, each county might be supplied without any charge to the Board of Agriculture.

These are the Queries drawn up for that purpose, and a copy of the Return made by one of the chief constables of the hundred of Kington.

Q U E R I E S

PROPOSED TO BE SENT TO THE

CHIEF CONSTABLES OF EACH HUNDRED,

IN ORDER TO OBTAIN THE NECESSARY INFORMATION FROM THE
CONSTABLES OF EACH PARTICULAR CONSTABLEWICK.

WHAT are the parishes or hamlets in your constablewick, and how much pound are the poor's rates?

What is the quantity of common or waste land, exclusive of roads?

What is the length, and in what repair are the turnpike roads?

What is the length, and in what state are the private or bye-roads?

What is the quantity of open field land?

What is the quantity of meadow-land? And what the quantity of grazing-

What is the quantity of land which is alternately ploughed for grain, and for
grass-seeds, and what is the course of husbandry?

What is the quantity of wood-lands?

What are the proportions of land, loam, clay, and other soils?

What is the number of each sort of horses, cows, oxen, sheep, hogs? And
ox-teams used?

Who are the graziers or farmers most remarkable for their improvement
breed of cattle and sheep, or for their improvements in agriculture?

Would carriages, with wheels nine or six inches broad, drawn with horses
double; or would those with six-inch wheels, drawn with horses geered single
be useful in your parish, on the public and private roads, taking into consideration
of carriages for the purposes of agriculture?

Is your parish tythable, or tythe-free? And are those tythes in the hands of
propriators, or the clergy? And what is the compensation paid for them?

What are the improvements that have taken place, or are now going forward?

What are the rivers and other streams?

What water-meadows are there, what is their produce, and how are they improved?

What are the towns, the number of houses occupied by gentlemen and
the number of inhabitants, and what are the trades carried on, &c.?

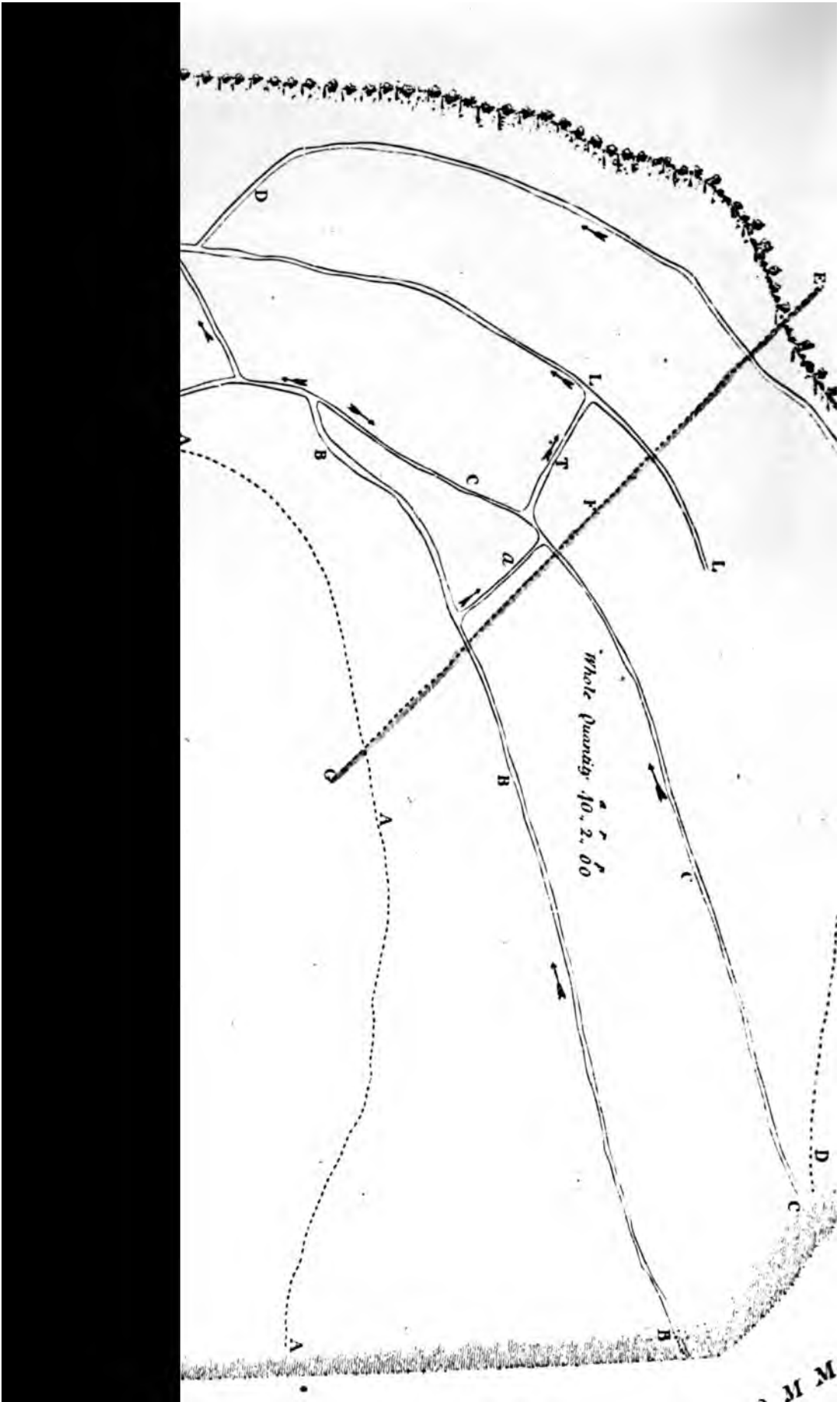
the different manures made use of?
the green foods, how are they cultivated, and how used?
the state of cottages and of the poor? Are there any clubs or friendly so-
cieties for their support?
the average produce of the different sorts of grain and green food per acre?
the parks, forests, or chases, and their quantity?
the canals?
any mines of coal or lime, &c.? And to what extent are they worked or
what price sold?
what fuel is used, from whence brought, and at what price?
the whole rent and land-tax of the parish?

[illegible]

P532

rock) that conveys the water to the bog, and carrying off that water by a close drain to some proper place, where the level admits of its discharge. The *second class*, by first making a drain to any convenient depth in the upper clay, and then at a small distance, on one side of this drain, dig, or with a large auger bore through the remaining part, (the upper clay) ever so deep, into the under stratum of sand, pebbles, or rock, &c. through which the water passes, and it will then rush up into the drain, so made, with a velocity proportioned to the height of the sand, or fountain, from whence it is supplied. This drain advances through the land. Holes must be dug or bored as before, every few yards, or at such distance as the strength of the springs may require, and the whole of the water thus brought up by tapping the springs, carried off by the drain (made in the upper clay) which must be a close one, to its proper level, and there discharged. Both these methods of draining, large tracts of land, under favourable circumstances, may be cured with one drain. The best place for fixing these drains is generally in the stratum, that conveys the water, comes nearest to the surface; and the best method of ascertaining that is, to bore or dig in different parts, through the different strata. The *third class* may be easily cured by close drains, at such distance and depths as will best carry off the *surface water*; I mean easy in execution, but not too expence. Sections might have been added of the different strata, composing the *three classes of land*, but a reference to the sections of the land drained, here annexed, may answer that purpose. The first class of bogs, or wet land, may be seen by reference to the section No. 1; and the second class, by referring to the section No. 2. The third class requires no further explanation. It may not be improper to observe that where the different strata (or measures) crop out, that is, become gradually more and more shallow, in some certain direction (as is often the case) till one after the other they all present themselves, in succession, on the surface of the earth. In such cases draining may often be much more easily and better effected by crossing (with one drain) the different strata or measures, where the levels and other circumstances admit.

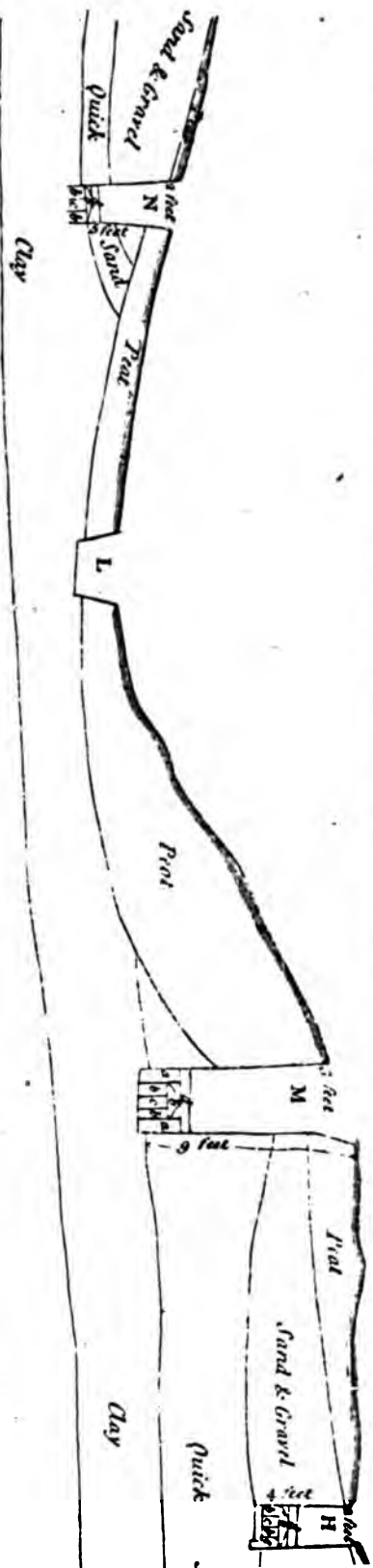
Inclosed are the plans and sections of three pieces of common or waste land, which I drained in the year 1791: the red lines on the different plans mark the places where the drains are made, and an arrow (thus \rightarrow) denotes which way the water runs in the drains. The plan, No. 1, represents part of a common in the parish of Church Endhill, in the county of Warwick, in my own occupation (as a tenant to the Earl of Aylesford). That part of it between the lines AAA, BBB, was covered with moss, and ling, has a peaty surface about 6 inches deep, and produces little or no grass. In all seasons it was filled *quite to the surface*, and often overflowing with water. That part between the lines BBB and CCC, was much more unsound, deeper of peat, and covered with moss, in most parts nine inches long. That part, between the lines CCC and DDD, was an absolute bog in all seasons. The *section* to the plan No. 1, assists in shewing the manner in which this land has been drained, and refers to a part of the surface marked with the lines E F G, with the different strata, in a perpendicular line under the same, together with the manner of cutting the drains and laying the stone, &c. therein. Having dug or bored with a large auger into several parts of the land, between the lines AAA, BBB, and CCC, I found peat, gravel, and mixed, and a quicksand, almost uniformly. The quicksand in every part, after getting



OPEN COMM



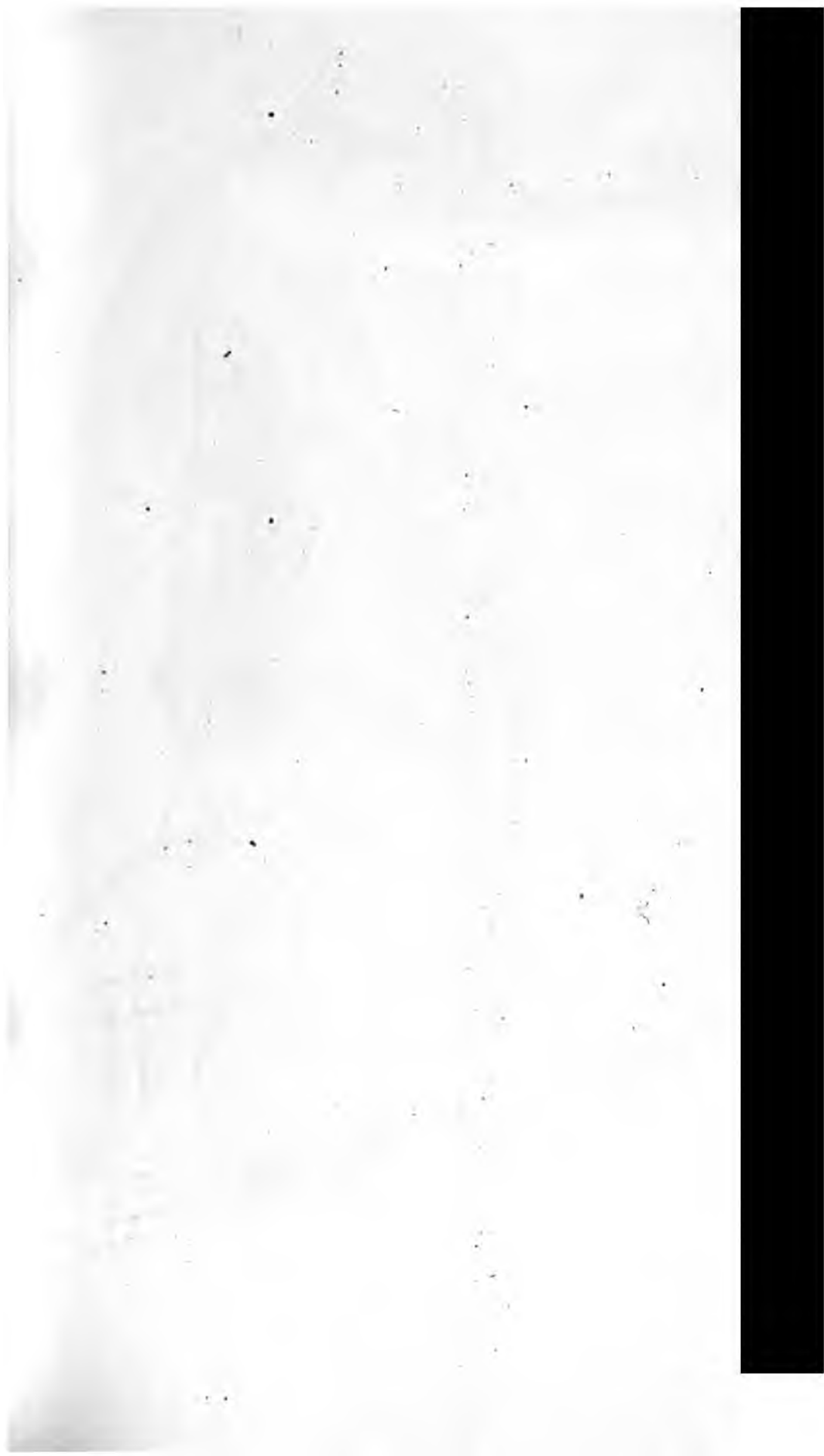
Horizontal Line

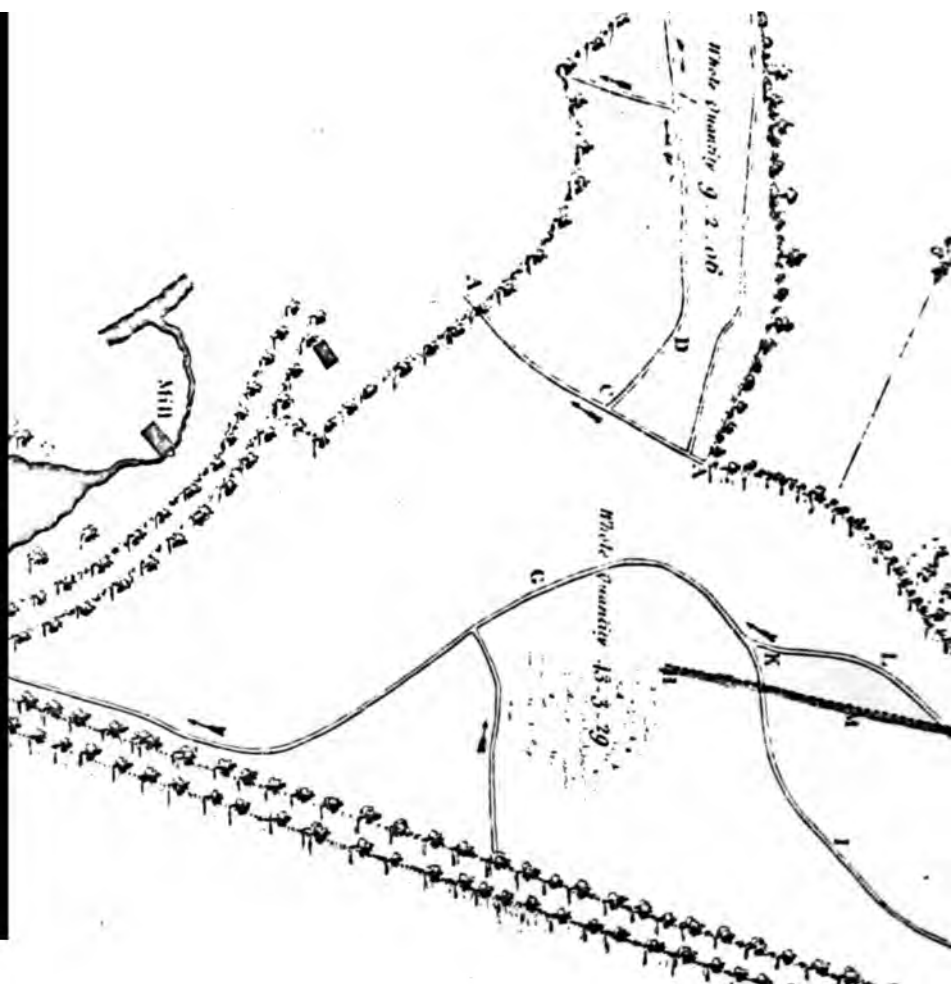


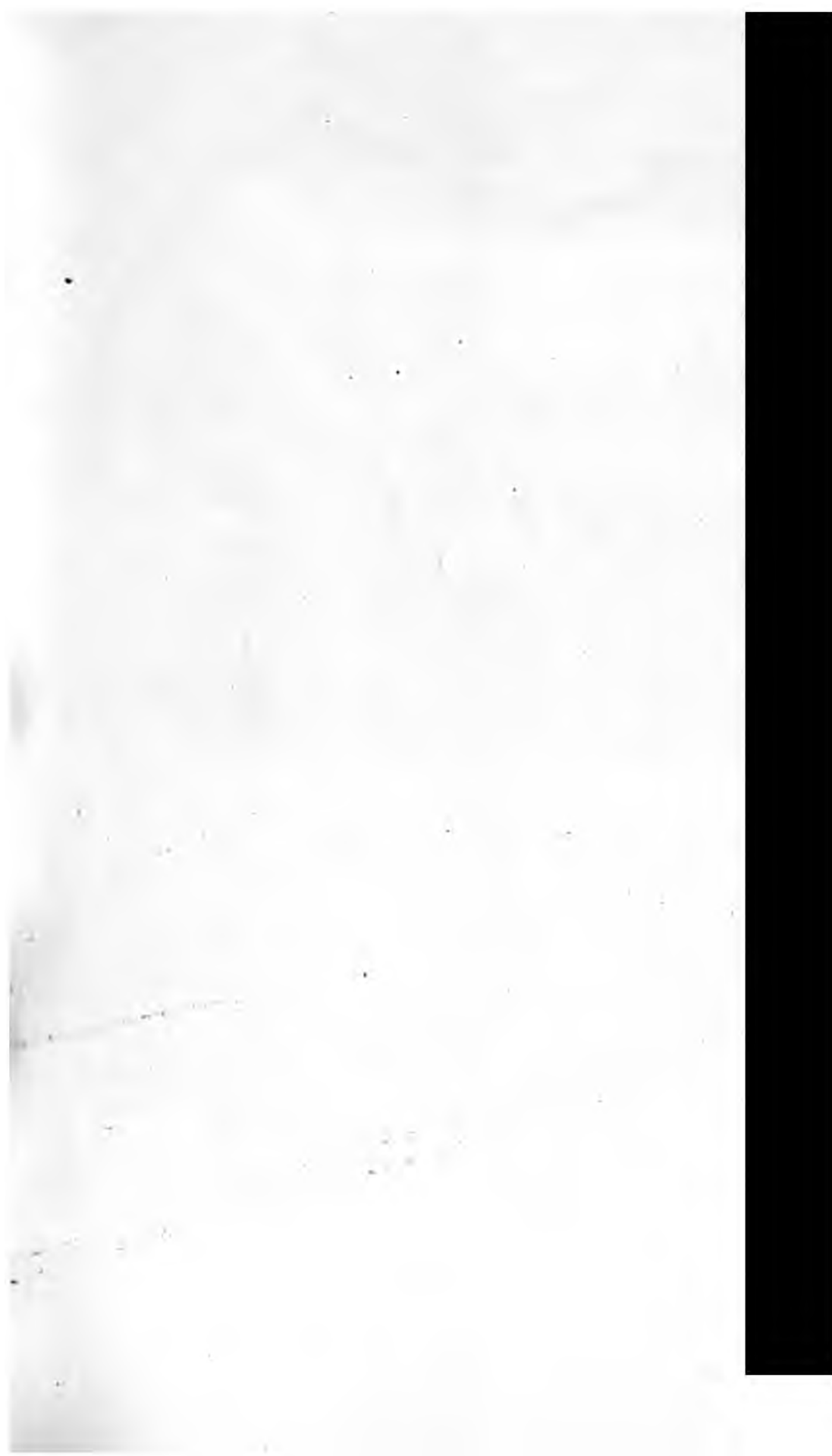
M. The scale of the Plan to which this Section refers, (and the same should be observed of the other Section) is so small, as not to admit of the Drain explained by it: therefore the Surface Line of this Section (which is marked Green) is sketched by a larger Scale, and the different Strata in a under that Line, together with the close Drains, and their constituent Parts, are sketched by a still larger Scale. —

REFERENCE to the Sections.

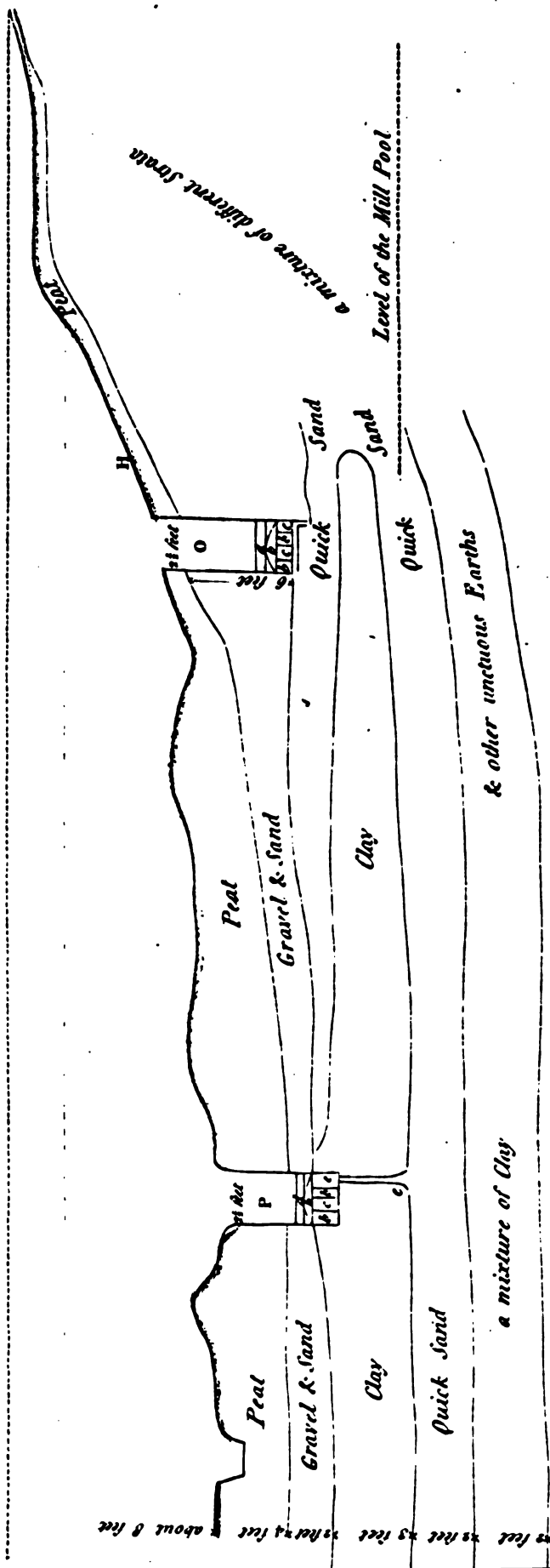
- a a In the Drain at M Peat turfs placed Edgewise.
- b b See Sides and covers of Stone in all the Drains.
- c c &c. The open part of all the close Drains.
- d d &c. Turf covers to all the Drains.
- e e In the Drains M O & P represent the side holes &c.







Horizontal Line



{ c.e. In the Drain P represents the side & Auger hole through which the Water passes }
 from the Quick Sand into the close Drain



OBSERVATIONS ON DRAINING LAND.

country there are large portions of land, that in wet seasons have always a dry surface, and other portions of land, that have always a wet surface; the former of those portions, admitting all the water which falls upon it to sink freely through their pores to various depths, till falling on clay, or on compact earth, whose pores will not permit it to pass through, it is there held up to a height proportioned to the quantity of water which comes upon it; and the manner in which that water is discharged, thus held up to various heights, it serves to distribute its water, (either by veins of sand, pebbles, or rock) according to the formation of the different under strata, on the neighbouring lands, and there are many other varieties of wet surface, on a basis that will, I believe, be altogether to consist of marl, clay, or some mixture thereof. The effect of water thus held up may be divided into two classes. The *first class*, when the water is thrown up by a vein of marl or clay, &c. upon the surface of descending ground, and in the manner of being held up by clay also) forms bogs or swamps, &c. The *second class*, where the water is held up by marl or clay, &c. as before, having above that marl, or clay, a stratum of sand or pebbles, &c. through which the water passes; and above that sand or pebbles, &c. another stratum of marl or clay, &c. through the weakest parts of which a continual pressure from its fountain, forces a passage upwards; and thus, the weakest parts of the marl or clay, furnishes a continual supply of water on the surface, the formation and growth of bogs, &c. in proportion as this water is more constantly supplied by its fountain, or head; namely, the higher lands, into which the water, &c. freely passes, as before described. There are also different circumstances, which may form a *third class* of land for draining, namely, deep soils, or open light soils, having near the surface a body of marl or clay. In either of these cases, the water which falls on the surface must, for reasons very evident, keep such land, in rainy seasons, constantly wet and cold; and it is observed, that a mixture of all the three before described classes of wet land, occurs in one field, by sudden alterations of the under strata, and thereby requires the operator, by requiring all the different modes of draining in the same field. It is admitted that bogs are thus formed and fed, their cure may be effected by the following means. The *first class*, by cutting through the stratum (be it sand, gravel, or rock,

P56欠

H

That part of the bog between the main open drain, and the line DD is laid dry in the same manner as that before described, by drains marked plan, with the difference, that the quicksand lay nearer the surface of was much thinner; therefore, the drain went through it so far into the render tide turfs in most places unnecessary; its depth, on the average, rather than five feet, as will be seen by referring to that part of the section marked last described land, about eight acres, I intend to plough in March next have this day, 20th Jan. 1792, measured the quantity of water discharged from drains, by sinking a hole near the side of the main open drain, and pla-

ensions therein, and find the discharge to be 504 gallons in one minute, or
ons in twenty-four hours. The land thus drained, will, with *proper* cul-
worth at least 14s. per acre. The draining of these thirty acres of land
at 80l. exclusive of the superfluous drain BBB. The whole length of these
is 1655 yards.

to hollow-drained nine acres of my farm in the bottoms of three pieces of
(called Small-ley Field, Old Land and Holiwell) by the method pre-
third class of wet land: these drains were made a few yards below that
field where the dry and wet land separate, about twenty-two inches deep,
and a cover of stone and ling upon the top of it, to keep the earth from

h of these drains is 880 yards, and the expence of labour and materials 13d.
The drains, in wet weather, discharge a large quantity of water, and will,
doubt, answer the intended purpose.

on the plan No. 11. is in the Earl of Aylesford's own occupation; that part
the lines AA and BB, containing acres, was almost an entire pulp.
is of the *second class*, namely, water passing through a quicksand, and con-
stratum of clay below, and another stratum of clay above it. The water
d, being pressed by its fountain, and forced up through the weakest parts of
d found a bog of irregular thickness on the surface, in some places six feet
others not more than two. As there is a considerable fall in this land
west, I thought it expedient to put two drains into it, marked on the plan
; and this appears to me to have been necessary, from a consideration that
rains continue to run in the same proportions as when first opened. The
which these drains were executed was, by digging through the different up-
nd as deep into the clay as the main open drain ACA would admit; then
oring through the remaining part of that clay into the quicksand, at the
about six yards in a progressive manner, the water rising rapidly through
into the close drains, made, &c. as mentioned before, has effected a com-
of this land, every part of which will now bear a horse to gallop upon it.
s discharge 3360 gallons an hour, which is much less than they did at first,
gs must be the case. I have not sent any section of these drains, nor so
description of the manner of executing them, as it would only have been
of what has been mentioned before, or what will be described hereafter.
ill be worth 20s. per acre. The draining cost 25l. and the length of the
id drains is 814 yards. The other part of the land on this plan No. 11.
acres, I have just now finished draining; and as this was intended to answer
s, one to drain the land, and the other to give an additional supply of wa-
ll-pool, marked E on the plan; and as a circumstance arose in the execu-
work, which frequently happens in draining land, namely, a sudden altera-
position of the under strata, a section and description thereof will not, I
ought tedious: the red lines on the plan mark where the drains are made;
he LMH, that part of the surface under which the section is made. This
s begun at the level of the mill-pool, at F, and continued along the line
ut any great difficulty, to H, and that in the manner before described, as
a cure.

a cure for the second class of boggy land. But at H, or near that place, the under altered their position; (see the section to plan No. II.) the quicksand, which covered the water, now became of twice its former thickness, and the clay, which had been above that quicksand, now, for some distance, disappeared. From the quicksand thus becoming so much deeper, we could not, with the level of the mill-pool (see the section) cut through it; nor indeed, from the wetness of the season, (Nov. 1791) would such an operation have been proper; I therefore continued a close drain to II, making side-holes into the quicksand, (see the section at O) which freely; but, as this could not cure the whole of the bog below, we branched off another drain from K, marked on the plan LL. This last drain was made by the method described for curing the second class of wet or boggy land, namely, by first making a close drain through the upper strata into the upper clay, and then at a small distance on one side of this close drain, boring a hole with an auger through the remaining part of that clay (see the section at P) into the quicksand, and at every eight yards, as the close drain advanced, still boring other holes in the manner before described; through many of these holes the water rushed with great rapidity. The water discharged from these drains, at the mouth at F, into the mill-pool, is 168 gallons per minute, or 168 hogsheads in a day; which is after the rate of 1,379,700 hogsheads in one year. Six acres of the land, on this plan at N, was always found; about twelve acres on the north side, were an absolute pulp, and the remaining acres very unproductive; the whole of this is now sound, and will, when cultivated, be worth 16s. per acre. This land would have been drained, at much less expence, into the main open drain (ACA on the plan); but then the water, which was much wanted for the mill, would have been lost. These close drains, 1452 yards, cost 100l. of which about 30l. is to be charged extra to the mill.

C





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LONDON:

1794.

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Duke of Buccleugh,	Hon. Chas. Marsha
Duke of Bedford,	Sir Chas. Morgan,
Marquis of Bath,	Wm. Pulteney, Esq
Earl of Winchelsea,	Thos. Wm. Coke,
Earl of Hopetoun,	Thomas Powys, Es
Earl Fitzwilliam,	Henry Duncombe,
Earl of Egremont,	Ed. Loveden Loved
Earl of Lonsdale,	J. Southey Somervi
Earl of Moira,	Robert Barclay, Es
Earl of Carysfort,	Robert Smith, Esq.
Bishop of Llandaf,	George Sumner, E
Lord Hawke,	John Conyers, Esq
Lord Clive,	Christ. Willoughby
Lord Sheffield,	William Geary, Es

Sir John Call, Bart. Treasurer,
 Arthur Young, Esq. Secretary.

MEMBERS OF THE BOARD, FOR 1794.

SIR JOHN SINCLAIR, BART.

RE-ELECTED PRESIDENT.

ORDINARY MEMBERS.

Those marked thus * were elected by Ballot, in the room of the five Members who went out on the 28th March, 1794.

Duke of Grafton,	Rt. Hon. Wm. Windham,
Duke of Buccleugh,	Sir Wm. Pulteney, Bart.
Duke of Bedford,	* Sir H. Fletcher, Bart.
* Duke of Argyle,	Sir Chas. Morgan, Bart.
Marquis of Bath,	Sir Christ. Willoughby, Bart.
Earl of Hopetoun,	* John Crewe, Esq.
Earl of Egremont,	Thos. Wm. Coke, Esq.
* Earl Fortescue,	Thomas Powys, Esq.
* Earl Camden,	Henry Duncombe, Esq.
Earl of Carysfort,	Ed. Loveden Loveden, Esq.
Lord Romney,	J. Southey Somerville, Esq.
Bishop of Llandaff,	Robert Barclay, Esq.
Lord Hawke,	George Sumner, Esq.
Lord Clive,	John Conyers, Esq.
Lord Sheffield,	William Geary, Esq.

Sir John Call, Bart. Treasurer,
Arthur Young, Esq. Secretary.

PRIVILEGED

PRIVILEGED HONORARY MEMBERS
BALLOTTED OUT ON 28TH MARCH, 1794

Earl of Winchelsea,
Earl Fitzwilliam,
Earl of Lonsdale,
Earl of Moira,
Robert Smith, Esq.

LIST OF HONORARY MEMBERS,
ELECTED BY BALLOT.

THE PRINCE OF WALES,
THE DUKE OF YORK,
THE DUKE OF CLARENCE,
THE DUKE OF GLOUCESTER.

A

Abergavenny, Earl of	Abdy, Rev. Abdy
Aylesford, Earl of	Aston, Henry Harvey
Anstruther, Sir John	Aldridge, John

B

Beaufort, Duke of	Bastard, J. P.
Buckingham, Marquis of	Bempde, R. J. V.
Blandford, Marquis of	Bogle, Robert
Bathurst, Earl	Batt, John Thomas
Bulkley, Lord Viscount	Bosville, William
Breadalbane, Earl of	Browne, Francis John
Basset, Sir Francis	Burdon, Rowland
Buller, Sir Francis	Belches, Robert

C

Coventry, Earl of	Calthorpe, Sir H. G.
Cremorne, Lord Viscount	Currie, William
Campbell, Lord Frederick	Colhoun, William
	Clitherce,

Clitheroe, James, jun.	Crowe, James
Cotes, John	Coleman, E.
Carew, Reg. Pole	Conway, Field Marshal
Curwen, John Christian	

D

Dynevor, Lord	Drake, William, jun.
Delaval, Lord	Damer, Hon. Lionel
Douglas, Lord	Dempster, George
Dundas, Lord	Draper, William
Davers, Sir Charles	Duncombe, C. S.
Dalton, John	Dymoke, Lewis
Dickins, Francis	

E

Evelyn, Sir Geo. Augustus	Eccleston, Thomas
Shuckburgh	Estwicke, jun. Samuel

F

Fife, Earl of	Fullarton, Colonel
Folkes, Sir M. B.	Fane, John
Finch, Hon. W.	

G

Gower, Earl	Graham, Colonel
Grimston, Lord Viscount	Goringe, Charles

H

Harcourt, Earl	Harley, Right Hon. Thos.
Hardwicke, Earl of	Hunter, Dr. John
	Honywood,

Heathcote, John
 Howard, Henry
 Howard, Philip

I

Johnes, Thomas

K

ent, Nathaniel

L

Langston, John
 Lumsden, John
 Lowndes, William
 Lygon, William

M

Master, Henry
 Majendie, Lewis
 Montagu, Matthew
 Martyn, Rev. Mr.
 Mackenzie, Lieut. Col. H.
 Marshall, William

N

umberland, Duke of

Ossory,

Ossory, Earl of Upper

P

Petre, Lord	Pierrepoint, C. M.
Pelham, Lord	Prescot, G. W.
Pelham, Right Hon. Thos.	Peirse, Henry
Pole, Sir William de la	Powlett, W. Powlett
Parkyns, T. B.	Pitt, W. Morton

R

Ramsay, Sir Alexander	Rose, George
Robinson, Sir George	Rolle, John

S

Spencer, Earl	Smith, Samuel
Scotland, Ld. Chief Baron for	Smyth, John
Suffolk, Earl of	Stuart, Andrew
Sutton, Sir Richard	Stanhope, W. S.
Shaw, Sir John	Strachey, Henry
Salisbury, Robert	Sullivan, R. Jos.
Sargent, John	

T

Tempest, John	Taylor, Rev. Mr.
Thompson, Thomas	Treby, Paul Treby

Vaughan,

V

Vaughan, Sir R. W.	Vavasour, Captain
Vavasour, Col. Henry	

W

Wentworth, Lord Viscount	Walcot, William
Wynn, Sir W. W.	Ward, John
Wray, Sir Cecil	Wilberforce, William
Waller, William	Wilson, Daniel

HONORARY EX-OFFICIO MEMBERS,
BY MINUTE OF THE BOARD.

The Lord Mayor of London,
The Lord Advocate for Scotland.

HONORARY MEMBERS,
BY VIRTUE OF THEIR OFFICES.

Sir John Call, Bart. Treasurer,
Arthur Young, Esq. Secretary to the Board,
John Talbot Dillon, Esq. Under Secretary.

FOREIGN HONORARY MEMBERS.

D'Anhalt, Count	Poderlé, Baron
Bernstoff, Count	Songa, Mons. Ant.
Hertzberg, Count	Smirnove, Rev. Mr.
Itzenplitz, Baron	Wilzich, Count
Mann, The Abbe	





GENERAL VIEW
OF THE
AGRICULTURE
OF THE COUNTY OF
MIDDLESEX.

GENERAL VIEW
OF THE
AGRICULTURE
OF THE COUNTY OF
MIDDLESEX.
OBSERVATIONS ON THE MEANS OF ITS IMPROVEMENT.

BY THOMAS BAIRD.

Gr. Brit.
FOR THE CONSIDERATION OF THE BOARD OF AGRICULTURE
AND INTERNAL IMPROVEMENT.

LONDON:
PRINTED BY J. NICHOLS.

M.DCC.XCIII.

W. W.

18. Whether there are any common fields, and whether division of them is proposed?

19. What is the difference of rent, or produce, between common fields and inclosed lands?

20. What is the extent of waste lands, and the improvement of which they are most capable, whether by being planted, converted into arable, or into pasture land?

21. What is the rate of wages, and price of labour, and are the hours at which labour commences and ceases, at the different seasons?

22. Whether proper attention is paid to the draining of the district, particularly the fenny part of it, and what sorts of drains are commonly made use of?

23. Whether paring and burning is practised, and how managed and found to answer?

24. Whether the country is well wooded, and whether woodlands are kept under a proper system?

25. What is the price of provisions, and whether the price is likely to be steady, to rise, or to fall?

26. What is the state of the roads both public and parochial, whether they are in good order or capable of improvement?

27. What is the state of farm houses and offices, whether generally they are well situated and properly constructed?

28. What is the nature of the leases commonly granted, and the covenants usual between landlord and tenant?

29. To what extent have commerce or manufactures been introduced in the district, and have they had either good or bad effects on its agriculture?

30. Are there any practices in the district, that could be of service in other places?

31. Are there any societies instituted in the district for the improvement of Agriculture?

32. Whether the people seem to have a turn for improvement, and how such a spirit could best be excited?

33. What improvements can be suggested either in regard to the stock or the husbandry of the district?

34. Are there any obstacles to improvements, and in what manner can they best be removed?

35. What are the names, descriptions, and addresses of the proprietors, or farmers, who are the most active, or the most skilful improvers in the district, and who are the most likely to be useful correspondents to the Board of Agriculture?

proposed, for the sake of making such surveys as easy as possible, that each person, who may undertake them, shall have a day or two to be gone over in five or six weeks : so that it may be unobtrusive to those, who have a good deal of business of their own, without any great inconvenience. Thus also the Board, will have a great accumulation of information, and a greater mass of instructive observations, from a greater number of intelligent men, for their consideration.

It is further proposed, that the reports received by the Board, shall be circulated as much as possible, in the counties to which they relate, for the benefit of receiving the observations, and adding to the knowledge of every Farmer and Gentleman in the district. From the information thus accumulated, a complete state of its Agriculture may be drawn up and published ; copies of which will be presented to the Board, to every individual, who may have favoured them with his assistance.

The Board can only make an allowance, at the rate of 5 l. per week, for the expence of such a tour. Indeed some Gentlemen, with great liberality, and much to their credit, have undertaken to survey several districts gratuitously. But that is not always to be expected, particularly from professional men. The payment of their expences, is not intitled to expect, if they give their time and trouble for the service of the public.

Profit, however, must not be the object of those who undertake such an employment ; nor could such a Board wish to employ any one, who would not willingly make some sacrifice for the public good, and indeed who would not take a personal share in promoting so useful an undertaking.

If the district is remarkable for its orchards, for its cyder, for its cheese, for its butter, for its breed of sheep, cattle, hogs, &c. or the culture of woad, liquorice, &c. particular notice is requested to those articles, or to any other in which it is remarkable. Drawings also, and exact descriptions, of the different breeds of sheep, cattle, and horses, in each district, would be particularly useful. The quantity raised of each sort of crop, in the different districts, and the quantity of milk produced by the different breeds of cattle, or of wool by the different breeds of sheep, should be too accurately ascertained and noted.



...ving intelligent paper, respecting the present
...ndry in the county of Middlesex, and the
...provement, drawn up for the consideration of
...griculture, and since corrected and improved by
...le individuals in the county, is now printed,
...urpose of its being circulated there, in order
...n, interested in the welfare of that county, may
...ower, to examine it fully, before it is published.
...an outline, it is requested, that any remark, or
...vation, which may occur to the reader, on the
...following sheets, may be written on the mar-
...mitted to the Board of Agriculture, at its
...o, by whom the same shall be properly attended
...the returns are completed, an account will
...of the state of agriculture in Middlesex, from
...thus accumulated, which, it is believed, will be
...superior, to any thing of the kind, ever yet made

...tends to follow the same plan, in regard to
...unties in the united kingdom; and, it is hardly
..., will be happy to give every assistance in its
...person, who may be desirous of improving his
...heep, &c. or of trying any useful experiment



I N T R O D U C

THE county of Middlesex, though the first in Great-Britain in point of population, is among the smallest in point of extent, being only about twenty-four miles in length from East to West, and eighteen in breadth from North to South. It is divided into six hundreds and two liberties. It contains two cities, which, united, form the capital of Great-Britain; and five market-towns; besides a great number of populous villages. It is bounded on the South by the river Thames; and that part of it, next the river, may be reckoned a portion of the extensive vale of the Thames, which, for beauty and rich cultivation, is, perhaps, unequalled by any other vale in Europe. Towards the North and East, it is most beautifully diversified, by small eminencies, or green hills, whose verdure is hardly impaired, even by the cold and storms of winter.

The number of acres in this county is computed to be about 250,000; by far the greatest proportion of which consists of garden ground, meadow, and pasturage; the vicinity of the capital, rendering that mode of occupying the soil, the most profitable. In general, it is supposed by the most experienced and best informed persons in the county, that about 130,000 acres is in meadow and pasture, 50,000 acres in nursery, gardens and pleasure-grounds, 50,000 acres in tillage, and about 20,000 acres in wastes and commons, or applied to no profitable purpose. The part that is in tillage is, in general, in good cultivation, and yields heavy crops of all kinds of grain; but, to the reproach of the inhabitants, and to the utter astonishment of every foreigner who visits us, it contains many thousand acres, still in a state of nature; and, though within a few miles of the capital, as little improved by the labour of man, as if they belonged to the Cherokees, or any other

other tribe of American savages. Upon viewing these wastes, such as Hounslow-heath, Finchley-common, &c. and comparing their present income and produce, to what it might be raised by the art and industry of man, it may justly be affirmed, that an improving income, of perhaps from £.30,000 to £.50,000. *per annum*, is thrown away, with as careless an indifference, as if the owners were afraid of being too rich. And when it is considered, that such an income is not only lost to the owners, but that the public at large, loses the use of productions worth, perhaps, £.200,000. *per annum*, it will readily be allowed, that it is a great national object, to pursue the means of preventing such a loss in future; and, at the same time, of removing such a reproach, upon the good sense and industry of the country.

In regard to the following observations, it is to be remarked, that the occupiers of land, in the neighbourhood of London, are naturally cautious in giving a stranger that minute information, respecting either rent or produce, which the Board may think it necessary to have. This may proceed from the hurry of business, in which they seem to be engaged, or (which is more natural) from a jealousy of the motives of the enquiry, which few, or any of them, will give themselves the trouble to be satisfied about. At a greater distance from the metropolis, this will not, probably, be the case.

This circumstance, however, it is to be hoped, will be a sufficient apology for the shortness of this paper, and the many defects which might be found in it, as originally written, but which the author is happy to acknowledge, in consequence of the obliging assistance of many of the most respectable characters in the county, have since been in a great measure corrected. This is a sufficient proof, that the inhabitants of Middlesex, when properly called upon, are not behind any other part of the kingdom, in zeal, for extending the knowledge, and promoting the interests of their country.

Part I.

1. PRESENT STATE OF THE AGRICULTURE OF THE COUNTY.

Preliminary remarks.—* The greater part of the cultivated land in this county, as has been already remarked, is occupied in grass, gardening, pleasure-grounds, and nurseries. In the more immediate vicinity of London you find almost nothing else; by which means, the observations, in a survey of this kind, are much more limited, and less various, than in a county, where the operations of the plough, can be traced, into all the different systems of husbandry, practised by the intelligent and experienced farmer; or, where every different species of stock has been brought to any considerable degree of perfection.

* The following account of the soil and fertility of Middlesex, extracted from Norden's *Speculum Britanniae* (written in the reign of Queen Elizabeth), may amuse the reader, who wishes to compare ancient and modern times :

"The soil of Middlesex is excellent, fat and fertile, and full of profite: it yeeldeth corne and graine, not oaelie in abundance, but most excellent good wheate, especiallie about Heston, which place may be called *Granarium tritice regium*, for the singularitie of the corne. The vaine of this especiall corn seemeth to extend from Heston to Harrow on the Hill, betweene which, as in the mid way, is *Perivale*, more truely *Purivale*, &c. &c.—Yet doth not this so fruitfull soyle yeeld comfort to the wayfaring man in the winter time, by reason of the claiesh nature of the soyle: which, after it hath tasted the autumnal showers, waxeth both dyrtie and deep: but unto the countrie swaine, it is a sweet and pleasant garden, in regard to his hope of future profite, for,

"The deepe and dirtie loathsome soyle

"Yeelds golden gaine, to painefull toyle."

"The industrious and painefull husbandman will refuse a pallace to droyle in these golden puddles."

The wheat of Heston was so famous, that Queen Elizabeth, as is reported, had the most part of her provision from that place, for *manchet* for her Highnesses own diet.

**For remarks and additional
observations.**

The county of Middlesex, may in general be very properly considered, as a sort of demefne to the metropolis, being covered with its villas, intersected by the innumerable roads leading to it, and laid out in gardens, pastures, inclosures of all sorts for its convenience and use. It swarms with people in its numerous and extensive villages; but no large towns can exist in the neighbourhood of that, which attracts people so strongly, from every part of the kingdom.

The Soil.—In the neighbourhood of London Middlesex is a district of no great natural fertility, the general soil being a lean gravel; nevertheless, in consequence of its vicinity to the metropolis, and the common share of warmth and manure, resulting from that circumstance, even that part of the county is rendered fruitful, and clothed with almost perpetual verdure. In regard to the more distant parts of it, there is a great deal of loam and strong clay, fit for growing corn of every kind. All the level or flat lands on the margin of the Thames are covered with a very rich mellow soil, with a few patches of gravelly soil interspersed in it, but so trifling, as to afford more than one acre of gravel for 49 of good land.

Garden-ground.—In the Eastern parts of Middlesex, Bow, Bethnal-Green, Stepney, &c. you find the greater part of the land converted into nurseries for raising shrubs, and trees, of all sorts. The grounds close to the city are in the hands of Gordon and Co. and other nurseries seem, in point of extent, as well as management, superior to any thing of the kind, in this part of the county. Flowers, and flowering shrubs, are the articles chiefly cultivated; but fruit and forest trees are also raised.

considerable quantities ; and the demand for all these articles is very great, not only in the neighbourhood of London, but all over Great Britain, and even Ireland, a great variety of foreign trees and flowering shrubs being to be had here, that can be procured no where else. The nurseries of Gordon and Co. consist of 30 acres of ground and upwards. The general average of men, employed in the nurseries and garden-grounds near London, is at the rate of one man *per* acre.

From Kensington to Hounslow, on either hand, for several miles, may be reckoned the great garden, to the North of the Thames, for the supply of London ; you meet with nothing in this quarter that is not in the hands of common gardeners, except the pleasure-grounds of some of the nobility, or of private individuals, annexed to their respective villas ; the management of which it is not the business of a survey of this kind to particularize.

About Chelsea, the fields are for the greatest part in the hands of nursery-men. The grounds in this neighbourhood, in the occupation of common gardeners, are, in general, not so well dressed, though the soil here is lighter than to the Northward ; and, consequently, fitter for garden crops. About Brompton, Kensington, and to the Westward, the nursery and garden-grounds are clean and well cultivated. Fruit-trees and flowering-shrubs are here raised in great quantities, find a ready market, and turn to great account. They raise also forest-tree plants in great profusion. It does not, however, appear so safe or eligible a plan, to trust to the forest-timber plants raised in grounds so near London, especially where they are to be planted out upon poor lands, or in more exposed situations ; as it is obvious, that plants raised as it were on hotbeds, and too hastily brought forward, by the force of manure, will naturally make but a slow and sickly progress, when transplanted to less rich and more unkindly soils. A medium

For remarks and additional
observations.

soil, neither too rich nor too poor, is the best. It is therefore humbly suggested to gentlemen in contemplation to become considerable, to turn their attention to raising their own plants, or at least to buy very small plants, at least in nurseries, and to keep them, when transplanted, in their own nursery-grounds. By adopting these plans, they will find not only a very great, but a prodigious satisfaction afterwards, in the future successful progress of their plantations.

Cow-keepers — All round London, but particularly Hackney, Islington, and for several miles thereabouts, cow-keepers engross every inch of land that is capable of being so employed. The quantity of milk, consumed by the metropolis, must be very great indeed. Some of these cow-keepers keep remarkable large stocks of cows, for the purpose of supplying this necessary article: one farmer (near Islington) has, on the different farms he possesses in the neighbourhood, very near 1000; in one year he has 300 cows; and, as at this season of the year, the cows are in the finest order, and their colours are so beautifully variegated, I could not help being struck with a scene so near London, at once so fertile and so populous. The cow-keepers are not particular as to the breed of cows you will find in their hands, beasts as various as the colours, — a cow that gives a great quantity of milk is naturally preferred; quantity, not quality, is the object. They are in general bought from the Northern parts of England, who make it their business to purchase cows for the London cow-keepers. They give, from six to ten pounds *per* cow, according to the breed. The spotted cows, sell for more by twenty per cent. than cows of equal goodness, but all of one colour and breed certainly give the largest quantity of milk.

but they are more tender than the Lancashire and Staffordshire; which, on that account, are in general preferred. The price of the Holdernefs, per head, is from ten to twelve guineas, at least at Iflington, where a fresh supply from Yorkshire, is regularly exposed to sale:

From what I could observe, the milk is delivered, entirely free from adulteration, to the people who retail it in London; and as they have it unadulterated, at the rate of three-farthings a pint, and retail it at three-halfpence, their profit is surely so great, as ought not to tempt them to any adulteration. But when it is considered, how much their milk is lowered by water, and other worse mixtures, it is matter of regret, that no method has hitherto been fallen upon, to prevent the abuses, so justly complained of, in regard to this very necessary article of life *. This is an object, well intitled to the particular consideration of those who supply the metropolis with milk, as it cannot be doubted that the generality of the inhabitants of London,

* Not satisfied with the profit above stated, which, considering the difference of measure, is above one hundred *per cent.* it is a common practice with the retailers of this useful article, to carry the milk first home to their own houses, where it is set up for half a day; when the cream is taken from it, at least all that comes up in that time, and it is then sold for new-milk;—by which means, what is delivered in the morning, is no other than the milk of the preceding afternoon, deprived of the cream it throws up by standing during that time. By this means a farther considerable profit accrues to the retailer; and the milk is greatly reduced in point of strength and quality. The cream, poor as it is, is afterwards, it is said, mixed with other ingredients; and yet finds a quick and ready market in the metropolis.

It is matter of surprize, that in the city of London, so long and deservedly famous for the attention and vigilance of its magistrates, in the conduct and regulation of the markets, no notice has hitherto been taken, or any effectual means adopted, to prevent the abuses, so generally and justly complained of, in an article, the consumption of which (in London and its environs alone) is greater than in half the cities of Europe.—Milk has always been a favourite part of the food of Britons; and, in a great and populous city, it is highly conducive to the health of the inhabitants.—*Lactis & carne vivunt*, says Cæsar, in his *Commentariis*.

would be satisfied, high as the price is, to give some addition to the sum they now pay, if they could purchase so useful an article perfectly genuine.

The cow-keepers breed very few cattle, and those they do breed, only from favourite cows, which become so, merely from their giving much milk, and with very little attention to the choice of their bulls. Even in summer, and when the grass is in the greatest plenty, the cows are regularly fed with grains, which, though the quantity of milk may be thereby increased, does by no means add to its quality. The general allowance is 45 quarters of grains *per week*, at 1s. 10d. *per quarter*, for 25 cows. They are given them twice a day, and they have besides two meals of turnips and hay. Some of them have tried salt, mixed with the grains, more with a view to preserve the grains longer in a sound state, than from any consideration of the health of their stock, or the improvement of the quality of the milk. It is acknowledged, that the cows eat the grains so mixed with greater avidity; but the proprietors, not getting an adequate return for their trouble and expence, I do not find that it is now much practised. Sometimes the grains are buried for a little time, during the brewing-season, if they are not much in demand, and afterwards dug up again, when they are still found perfectly fit for use. Five or six men only are employed in attending near 300 cows; but as one woman cannot milk, above eight or nine twice a day, that part of the business would necessarily be attended with a very heavy expence, were it not that the retailer agrees for the milk of a certain number of cows, and takes the milking upon himself. Sometimes men undertake this branch of female employment, though in general they are very awkward at it.

Consumption of milk in London.—The quantity of milk consumed in the metropolis, and the sum of money it costs
the

the inhabitants, to be supplied with that article, it would be extremely desirable to ascertain. But there are not sufficient data to do it with any great precision. The following calculation, however, may be improved and perfected by more minute and careful enquiries, which the Board may afterwards cause to be instituted.

Though the yielding a great quantity of milk, is naturally the principal quality wished for by the London cow-keepers in the cows they purchase, yet so indifferently have they as yet succeeded in attaining that object, that though it is well known that cows in Scotland, of the true Dutch breed, yield at the rate of 16 Scotch pints, or 8 English gallons *per* day, and sometimes more, yet in the neighbourhood of London they seldom give more than 6 gallons even in the height of the season; indeed 5 gallons in summer, and 4 in winter, is a high enough average.

The account of each cow will then stand as follows :

	No. of gall.	Value of milk.
Five gallons <i>per</i> day for 182 } days, at 6 <i>d.</i> <i>per</i> gallon,	910 }	£.22 15 0
Four gallons <i>per</i> day for 183 } days, at 6 <i>d.</i> <i>per</i> gallon,	732 }	£.18 6 0
Total each cow,	1642	£.41 1 0

On the supposition that there are 6,000 cows necessary for the supply of London and its suburbs, there are consequently 9,852,000 gallons of milk sold there in a year, or at an average, about 27,046 gallons daily; for which the cow-keepers get £.246,300.; and as the retailers get 1*s.* *per* gallon, it costs the inhabitants of London £.492,600. *per annum*, or about £ 1350 *per* day, to be supplied with milk and cream. The butter consumed there, comes at a greater distance, particularly from Epping, Cambridge, &c.

System of husbandry.—The system of husbandry practised in Middlesex, is in general nearly the same. At the extremities,

tremities, the case is otherwise, but in the neighbourhood of the City, the lands are principally occupied in raising hay for the London-market. From the lower and richer grounds, they cut two crops in the season; a practice which could no where be adopted, but where land is properly watered, or in the vicinity of a great City, where the command of manure is superabundant. In the higher grounds, round Highgate and Hampstead, and farther on to Barnet and that neighbourhood, they cut only once.

That part of the county of Middlesex beyond Hounslow-heath, and towards Cranford, Uxbridge, &c. is in a state of high cultivation; a considerable part of it is also occupied in raising hay for the London market; and this affords so sure a profit, that all the lands in this county, in the immediate contiguity of London, not employed as garden-ground, may be said to be devoted to that purpose. Two loads an acre, is reckoned a moderate crop; (the load here is only 1800 weight;) but two and a half is not uncommon, and sometimes more. When hay is at £.5. a ton, or £.4. 10s. a load, as it is at present, (July 1793), and land in a situation to yield two cuttings, and after-grass besides, no plan can yield more profitable returns, with such little risk and trouble *.

* No good farmer, however, thinks of mowing his meadow lands more than once a year, unless he has, or can easily procure, dung sufficient to cover the ground immediately after a second mowing. It is worthy of remark, that in the beautiful parish of Hendon, in this county (7 miles from London), where the soil is in general a very strong clay, the farmers used to mow as much hay from *the whole* of their grounds as they could get, without thinking of the ill consequences that might attend it; but experience hath taught them a very different mode of occupying their grounds, viz. to depasture about a third part of their grass lands, with bullocks, cows, &c. for which they find a ready sale at Smithfield about the months of October and November.—The mode which was there formerly pursued, obliged them to sell off their stock about Michaelmas; for if they had not done so, their grounds would not have carried the cattle, without being very much poached, and thereby greatly injured:—but now these capital farmers, by depasturing a *part* of their grounds every year, find, that the grounds which they had depastured the preceding year, will bear their stock a considerable time longer, without being injured by the feet of the cattle. This enables them to bring their stock to a much better market, and is also a great saving in the manuring of the land.

It

It is towards the more Western boundaries of the county, that corn is principally attended to. At 18 miles distance from the metropolis, it is hardly worth while to send hay to the London-market (having nothing but manure to carry back again), unless the price is very tempting; in which case, indeed, hay is brought from a still greater distance.

Towards Harrow and that part of the county, the culture of hay continues to prevail where the ground is inclosed, but not to the same extent; for you frequently meet with fields under wheat, beans, &c. Though the crops, however, are abundantly rich, yet the owner does not find it his interest, to continue his inclosed ground in perpetual tillage. He lays it down, therefore, to meadow again, after a crop or two, which generally answers the purpose for which it was broken up. But whether it is to free old grass grounds from fogging, or whatever other reasons may induce the farmer to convert his fields into tillage, it has been matter of surprize to many intelligent persons, why artificial grasses, particularly clover and rye grass, are so seldom used, when the husbandmen of this county lay down their grounds to hay-crops. Perhaps they may have very substantial reasons for preferring natural grasses; but it might be worth the attention of the Board, to make this a more particular subject of future enquiry, as in the course of my communications, I never had the good fortune to fall in with any one, that could give me satisfactory reasons, for their conduct in this particular.

In the more remote parts of the county, it may be observed, that clover and rye grass are occasionally gone into, as a preparation for wheat; but the hay sent to the London market principally consists of natural grasses.

In some parts of Middlesex, the cultivation of green pease and turnips prevails on so large a scale, as to make a part of their regular course of agriculture.

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different wards in the city, hired people to clean their streets, now they receive considerable sums for a grant of that privilege. 30 years ago, dung sold for 3d. a load, 15 years ago at 9d. 10 years ago at 1s. and now common stable dung is at an average about 2s. and the finer sorts, as bones, ashes, &c. from 4 to 5s. The expence of carriage on the turnpike roads, may be calculated at 2s. *per* mile *per* load, when it is even back freight, but the barges on the Thames, supply the cultivators near the banks of the river, at a much cheaper rate, about 6d. *per* mile *per* load. It requires from 20 to 24 loads of fermented dung, or 36 loads of fresh dung, to manure an acre. Gardeners manure twice every three years; husbandmen only once. The expence is from £.5. to £.9. *per* acre, according to the distance, &c.

Proprietors.—In districts situated in the neighbourhood of a metropolis, where the ground is rich and valuable, it may always be expected, that the land should be divided into small portions, and Middlesex accordingly is possessed by a great number of proprietors. Of these, his Grace the Duke of Northumberland, enjoys, in the neighbourhood of his well-known villa at Sion, the most considerable property, of any amongst the nobility; and the grounds there, notwithstanding the absence and bad health of its noble owner, are kept in very excellent order. Of the commoners, Richard Page, Esq. of Wimbley-Park, James Clitherow, Esq. of Boston-House, and Thomas Wood, Esq. of Littleton, are to be reckoned among the greatest proprietors; their places of residence are distinguished by peculiar neatness; and the possession of considerable property in land, so near a luxurious capital, by landlords who attend to the improvement of their estates, and the comfort of the people about them, is no unpleasing circumstance to mention. Caen—, or more properly Ken-wood,

the celebrated villa of the Earl of Mansfield, is not more distinguished by the beauty of its situation, than the richness of the fields about it; in the cultivation of which, its late venerable owner took particular pleasure. In this, he is likely to be imitated by his respectable successor, who also proposes paying particular attention to the improvement of the breed of cattle to be kept there. Sir Joseph Banks, the President of the Royal Society, frequently resides, during the summer season, at Spring-Grove, in this county, where he is trying many experiments for the improvement of wool, &c. the result of which, it would be desirable to have inserted, when the account, of which this paper is merely the outline, enters more into detail.

Rent. The rent varies according to the situation and quality of the ground, and other circumstances which must be taken into consideration. Perhaps there is no county in England, where the value of farming land, as it may be called, in contradistinction to nursery grounds, &c. differs so much as in Middlesex. Indeed, lands of the same quality and goodness, shall, in one situation, let, on an average, for 3*l.* an acre, whilst others used for the self same purpose, not more than a mile distant, and having the same market to go to, do not fetch on an average more than 20*s.* The average rent of land in the parishes of Heston, Bedfont, Stanwell, and many others in the neighbourhood of Hounslow Heath, does not exceed 20*s.* per acre. Even near London, some few who rent under old leases, do not pay above 50*s.* per acre. In the common fields near Fulham, the rent is 3*l.* Inclosed land pays 4*l.* Garden ground walled in, from 5*l.* to 8*l.* and it is said in the neighbourhood of Chelsea and Kensington, even 10*l.* but the rent in that case is regulated by the quantity of walls and fruit trees thereon, and not by the bare value of the land.

land. Besides the rent, the tenant has a variety of taxes to pay. Tythes from 8s. to 12s. per acre. Poor rates from 2s. to 5s. in the pound. Highways from 4d. to 6d. in the pound, and sometimes other taxes, so that considering rent, taxes, the expences of manure, and the price of labour, it is evident, that with all the advantages of vicinity to the metropolis, it requires in some places a great deal of attention and industry, to make a *living profit* by renting such land.

Price of labour.—The price of labour is pretty much the same all over Middlesex: men are hired at twelve shillings a week in summer, and nine in winter. Nursery-men have their hands, in general, cheaper than the common gardener or farmer; which can only be attributed to this, that their employment is more constant, more to be depended on, and perhaps less severe. During the summer season, great numbers of women are employed by the gardeners. They principally come from the neighbourhood of Shrewsbury and Dudley. They receive 6s. *per* week in summer, and 5s. in winter. This working in the open air is found conducive to their health, and much preferable to the spinning in which the sex are employed in other parts of the kingdom. Mowing barley or oats costs 5s. *per* acre. Reaping and shocking wheat from 10s. to 12s. In summer they begin to labour at 5 in the morning, and end at 7 in the evening. In winter they begin at 7 in the morning, and end at 4 in the evening. They are allowed an hour at breakfast, and another at dinner. On the whole, it cannot be said that the price of labour is high, for a country in which the metropolis of so great an empire happens to be situated.

Commons.—Hounslow-heath, one of the most extensive commons in this part of England, presents itself to the

knowledge and experience of one another, would not only be an excellent school for the observation of others, but would prove the surest and most rapid means, of bringing the ground to the highest pitch of cultivation.

But whatever method may be adopted, it is certain that the inclosing and improving this very extensive waste is an object of great national concern, and should be paid immediate attention to. The parish of Stanwell hath begun; and why should not the other parishes follow so good an example?—Almost the whole of the heath is sacrificed to a few opulent farmers who live on the borders of it, and put on immense numbers of greyhound-like sheep, that hunt about for their food, and devour with avidity every pile of grass they can meet with. These, with a few cottagers who cut turf or fuel for sale *, and keep a parcel of ragged scabby horses, that are continually breaking into the neighbouring fields, and doing mischief to their neighbours, are the only persons who have any benefit by the commons lying in their present uncultivated state. There are a considerable number of respectable persons, who, in virtue of their property in some one of the neighbouring parishes, are entitled to a right upon the commons, but they live so remote from it, that they cannot receive any advantage by it; consequently, in its present state, it can be of no value to them; or, at least, it is of so little value, that no account, or notice, is taken by them, of the cattle of strangers that may be sent to graze upon it.

Finchley-common is another extensive waste, in which there is large quantities of excellent gravel for roads, but

* In regard to the cutting of fuel, that is mere turf or sods (for there are no peats that I ever saw), that liberty is very much abused; it is a common practice for these poor cottagers, as well as strangers, to cut turf, under pretence that it is for their own house use, and sell it to any customer they can get for it; and their best customers are to be found among the market-gardeners, who consume it in their hot-houses.

the greater part is a clay soil, and capable of high cultivation; the means of improving a soil of this quality, by the common methods of summer fallow and liming, or paring and burning, where the surface is covered with strong heath or ling, with the command of manure, which can at all times be obtained, and a proper rotation of crops at the commencement, would quickly and effectually convert this sterile waste into a tract of corn and grass ground, of fertility equal to the most sanguine expectations of the improver*.

The remains of *Enfield-chace*, which still contains from 2 to 3000 acres unimproved, is also another of those tracts, which demands the attention of the public, and calls loudly for the operation of the industrious farmer. The soil is naturally good, and very improvable, consequently the same observations are applicable to it, which have already been made, in regard to Hounslow-heath and Finchley-common; and the time, it is hoped, is not far distant, when such wastes shall no longer remain a disgrace to the country. In regard to *Enfield-chace*, in consequence of an act which passed about fifteen years ago, a considerable part of it has been inclosed, and brought into cultivation. The improvements there have been considerable, particularly

* According to Rocque's map of Middlesex, Hounslow Heath contained, in 1754, about 66.8, and Finchley Common 12.3, acres. Some parts of Hounslow was inclosed about 50 years ago; the particulars respecting which may be worth the enquiry. In 1789, such part of this heath, as belonged to the parish of Stanwell, was inclosed by act of parliament. By a clause in the act, power was given to the commissioners named in it, to sell by auction such part of the heath as was necessary to defray the expences of the inclosure. The waste land thus sold produced £.21. per acre. The greater part was purchased by Edmund Hill, Esq. and was soon brought into a very good state of cultivation. The open fields of Stanwell was, at the same time, inclosed; by which the proprietors greatly improved the value of their estates.

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those of Francis Russel, Esq. and of Doctor Wilkinson *, but, in some instances, the expences, it is said, exceeded the profit, and that good land might have been bought at a cheaper rate. It is doubted, whether the best mode of improving waste lands, was then known, or at least universally practised. It is certain, that unless a judicious system is pursued, the profit cannot be great. But now, so much additional light has been thrown upon the subject, that any person, desirous of improving a waste, cannot find any difficulty, in procuring information, respecting the best method of doing it to advantage, according to the nature and quality of the soil, and the other circumstances to be taken into consideration. Where the soil of a new improved common, is inclined to be a stiff cold clay, the application and operation of lime, as a manure, is attended with the most beneficial and happy effects, and if the ground is thoroughly drained, can be safely recommended from experience †. Afterwards, every thing depends upon a proper rotation of crops, and laying down the ground to grass in the highest heart and order, without exhausting it on the first outset by a repetition of impoverishing crops of corn; which, with a view to a too early reimbursement, is too often unhappily the case.

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* In the Annals of Agriculture, vol. XV. p. 341, vol. XVII. p. 352, and vol. XX. p. 451. Dr. Wilkinson has given a great deal of curious information respecting Enfield-chace, and made many important observations, respecting the best mode of cultivating waste lands.

† It is well observed by Mr. Selby, in the course of some excellent observations he made on this paper, as originally written, that it is in a great measure owing to the high price, and scarcity of that most invaluable stimulus to vegetation, (lime), that large and very considerable quantities of Land, lie dormant and uncultivated, in many parts of this kingdom, particularly in the northern counties, where there is abundance both of limestone and coal, but these articles are frequently so far separated from each other, that it is impossible to convey the coal, to burn the limestone into lime, but by shipping. In this case, the duty at present

appear to differ essentially, from the mode practised in the Northern counties. Here, having the advantage of an earlier harvest, and consequently having less risque of the hay-crop being injured by the tropical rains, it is generally got in remarkably green. They do not, however, pretend to any regular method; nor is it possible for the most intelligent farmer, to prescribe any fixed mode of making or getting in hay*. The course of management must be determined

* The method of making hay most commonly used in Middlesex (but there is no universal rule) is as follows: What is cut in the morning, or fore part of the day, is turned out of the swath, and ted in the afternoon, in which situation it remains till the dew is off (if any has fallen). Next morning it is again ted or thrown out; immediately after which, it is raked together in wind-rows; and, towards evening, if there has been no rain, it is put up into small kyles or hand-cocks. Some let it remain in these kyles; while others judge it safer to throw three or four of these into one larger hand cock; in which state, having stood a few days, it is put into the large pike; from which, after standing till it is sufficiently dry, it is carted off the field to the hay-stack: probably, if it were to remain longer in these pikes, there would be less risk of its being afterwards. In the making of hay, so much depends upon the weather, that no precise rules can be laid down. In a dry season, like the present, the process is very simple, and the expence moderate, but when it happens to be wet, it requires some degree of ingenuity and attention, to save and get it in green, besides being attended with a heavy additional expence.

In very fine dry summers, such as the present year, 1793, it is a common and just remark, that more hay is spoiled by heating, in consequence of the farmer being in too great a haste to get it stacked, or put into a rick, than in wet seasons. The reason of which is, that although the grass appears to be dead and dry, yet it often happens, that the sap of it is not sufficiently evaporated before it is stacked. This it is which causes it to heat, so as frequently to take fire. To prevent this, experience has taught us, that by putting a funnel of 4 pieces of wood nailed together, and bored full of holes, into the middle of the stack, and drawing it up, as you proceed in the finishing your stack or rick, and letting the funnel remain, till after the rick has been finished some days, the hay will be preserved, and prevented from heating too much.

It is certain that there cannot be a more important object, in the whole line of agriculture, than to discover a method of making hay, to advantage, *in wet weather*; and it seems not a little strange, that among all the improvements carrying on in this improving age, no *public* attention has been paid to this necessary business till within these two years, when the Society for the Encouragement

determined by the weather; the sole object being to avoid unnecessary labour and expence, and to get it into stack, as green and full of juices as possible, without running any risk of its suffering there, from not being (what is technically called) sufficiently hayed. The stacks in general being very high, they are obliged, in forming them, to make use of a kind of stage or scaffolding, which saves labour, is more expeditious, and infinitely preferable, both for corn and hay, to the old practice of carrying loads up ladders on the backs of the labourers.

The number of accidents, and consequent losses, which happen annually by the firing of hay-stacks, in different places through England, may render it proper to mention, a method equally sensible and simple, which I once saw tried with success in Suffex. When a stack is so hot, as to raise apprehensions of its taking fire, let a man be directed to that part of it which is most likely to begin to burn, which will be known by a greater degree of sinking in the roof, and there cut out across the ridge, and throw down, a space no broader than just to allow him to work; and to continue cutting and throwing down the hay, till he gets below the heat. The warmth and steam will be so great, as to make it impossible for one man to work long at a time; but this may be remedied, at least in some degree made easier, by making two or three men take it in turn. Perhaps it may be necessary to make more than one open-

of Arts, &c. offered a premium for such a discovery. It is not to be expected, that under the present system of haymaking, any thing very advantageous can be done; but let the ingenious turn their thoughts to the object, and it is to be hoped, that some means may be found out, by which this desirable end may be attained; and we may be the more sanguine in our expectations, when it is considered, how many things, formerly judged impossible, have of late been found practicable. To instance one, among many others, the pinning above two hundred threads, by one person, is now common, which, within our memory, was treated as a chimera, and declared totally impracticable.

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ing; but when the cure is effected, the apertures, or spaces so cut out, can be filled up again without injuring the stack, even in its external appearance.

The firing of stacks, also, might be prevented, were baskets put at first into the middle, and drawn up by a cord, as the stack rises. By this means a kind of chimney is made in the stack, which draws off the foul air, and prevents any risk of the stack being burnt.

Others recommend hay-barns covered in with tiles and chimneys in them, with holes in the shafts to let out the foul air, and a communication below between the shafts, and the open air, made with brick, in the manner of a drain. By improving the quality of the hay, and saving it from accidents, any expence attending their construction, will, it is said, be amply repaid in the space of two or three years, and, consequently, the first cost is the only object of consideration.

Straw.—The price of straw, as might naturally be expected, is dearer in the neighbourhood of London than in any part of England. It is at present as high as from 30 to 32*s.* a load. The load consists of 36 trusses, at 36 lbs *per* truss. Two loads of wheat straw *per* acre is reckoned a tolerable crop, which may be averaged at 8*d.* a truss, or 24*s.* a load, or £2. 8*s.* *per* acre. In other parts of the kingdom, the value of the straw is supposed equal to nearly the expence of reaping. Here, there is probably a surplus of very near £2 *per* acre, a material addition indeed to the profit of the husbandman.

Here it may be observed that the Middlesex threshers manage the flail differently from those of many other counties. Instead of downright strokes, they always make sloping ones, not to break the straw, which is so material an article of sale for the London market. This mode of threshing may improve the appearance of the straw, but,

2. MISCELLANEOUS OBS.

Horses.—In Middlesex, on account of its great population, there are more horses employed than in any county in England. The draught horses to be seen in the streets of this city are, universally allowed to be the finest in the world; but they are not the produce of any particular district, the whole of England being ransacked by the dealers, and the highest prices given for horses of strength and figure, for the dray-work of the metropolis. The value of land in this county is such, as to exclude every idea of breeding either cattle or horses, as an article of profit. Some of the Middlesex farmers, however, do breed some horses on their own grounds, and contend that they live longer, and do more work, than any they can purchase.

Sheep. There are not many sheep bred, or fed in Middlesex. Some are to be seen on Hounslow-heath; but they are such pitiful starved-looking animals, as hardly to deserve notice, except merely for the purpose of remarking, to what better purposes the ground might be devoted. As these sheep are very apt, from neglect, and mismanagement, to die of the rot, and other disorders, this is an additional argument, for inclosing such commons, as in general they prove injurious, even to those, for whose supposed interests, they are kept in their present miserable state. In some parishes, it is the custom, as soon as the cattle are off the grounds, to stock them with sheep, which

The ewes being dried early, are brought to market before Michaelmas, and will weigh, perhaps, from seven to eight stone; average value about £1. 1s. The wool about three pounds, which, at 10d. amounts to 2s. 6d. The whole of the stock is cleared within the year, and the profit or loss thereby ascertained. The profit is, in general, as follows:

The lamb sells for	—	—	£1 0 0
The ewe for	—	—	1 1 0
The wool at	—	—	0 2 6
			<hr/>
			2 3 6
Deduct prime cost	—	—	1 6 0
			<hr/>
Profit <i>per</i> head	—	—	0 17 6

Cattle.—There are various modes adopted in Middlesex for feeding cattle, by grains, oil-cake, &c. But, of late, it has not been unusual to keep them in stalls, and to supply them with the wash of the malt distillers, instead of employing it in fattening hogs. And here it may be observed that any prejudice entertained against either the beef or the pork of malt distillers, cannot be well founded. Any food produced from grain, is undoubtedly wholesome for all sorts of animals, It is notorious that the best pork for sea voyages is that supplied by the malt distillers, (who always finish them with *hard meat*) and it is equally certain that the best bacon in the kingdom is made from those hogs *. In regard to the idea that the animals are kept in a perpetual state of intoxication, it may be observed, that he would be a bad workman, who left spirit enough in his wash, to intoxicate any animal fed with it.

* There is a large market held on Finchley-Common for the sale of these kind animals, where great numbers are purchased fat by the hog-butchers of London, as well as vast quantities of lean store, brought from Shropshire and other distant counties, to be fed by the malt-distillers of London.

Markets.—To state the amount, of all the various articles produced from the soil, sold for the use of the inhabitants of London, would be entering into too extensive a field, and will be done to more advantage by those, who undertake, to draw up a general view of the metropolis. It may be sufficient to remark, that the consumption of London is supposed to be about 110,000 head of cattle, and 730,000 sheep. It may be proper to add, that any person desirous of looking at a great variety of stock, cannot spend a few hours to more advantage, than in examining the market at Smithfield. He will there see, that for want of attending to the breeds of neat cattle and sheep, **THAT A LARGE PROPORTION OF THE HERBAGE OF ENGLAND IS WASTED, IN PRODUCING BONES AND OFFAL, INSTEAD OF MEAT.** Is it therefore to be wondered at, that provisions are dear? What a field here presents itself, for national wealth and public improvement? Surely the time is not far distant, when the discoveries of intelligent men, sanctioned by repeated experiments, will overturn every ancient prejudice, and when nothing but truth will prevail, in regard to points, of such real importance, to the general interests of the community.

Price of Provisions. The price of provisions in the county of Middlesex, in general, is much the same as in the city of London. In the remoter villages, milk is retailed at the rate of 5 instead of 6 farthings, *per* pint; but other articles are much the same. Beef and mutton generally run, from 5*d.* the coarser pieces, to 7*d.* *per* pound the choicer. Pork and veal from 6*d.* to 8*d.* and lamb at 6*d.* 14 oz. to the pound. The bread is regulated by the city magistrates, in proportion to the price of wheat, and is generally reasonable, and of good quality. The price of butcher's meat is highest in the spring months. All kinds of vegetables are dearer, in proportion, than animal food. Poultry
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and fish, however, are the most expensive articles. This occasioned the remark of a Scotch traveller, "that a good sheep, in Scotland, might be purchased for almost the same sum of money, as a chicken in London."

Roads.—The strict attention paid to the keeping of the roads in this county, in good repair, is an object of the utmost consequence, and is in general well attended to. By this means, the produce of the country is brought from greater distances, and at easier and cheaper rates, to market. To this may also be attributed, the safe, cheap, and expeditious conveyance, in stage-coaches, to and from every place round the metropolis; a mode of travelling, for which England stands perfectly unrivalled. In the conveniency, as well as in the variety of construction, of these public vehicles of conveyance, London also excels in a superior degree. Not many years ago, it would have appeared perfectly fabulous, if any one had asserted, that at this period, travelling would be so cheap and expeditious, that a person could be carried from London to Southampton, a distance of seventy-five miles, in ten or twelve hours, at the very low rate of half a guinea, and in a carriage drawn by four horses. It is true, this machine, to elude the duty, runs upon eight low wheels; but in point of ease and expedition, it is little inferior to the mail-coaches, and the difference of expence is very considerable.

Brick-fields.—There is one mode of making use of earth, which is, probably, carried to a greater extent in Middlesex, than in any part of the kingdom, namely, in the manufacture of bricks. Some years ago, the sum usually paid for an acre of brick earth, was £100. But the price of this, like that of other commodities, has been rapidly increasing, and indeed has gone as high as £350 *per* acre. The common way now is, for the proprietor to get one shilling *per* thousand,

sand, and to receive the ground in a level state, within a foot of the height of the adjoining road, when the brick earth is completely manufactured. The common calculation is, that there is one million of bricks *per* acre, in every foot depth of brick earth, (at least with the addition of the ashes that is mixed with the earth) and, one field with another, that the brick earth is 4 feet deep. The bricks called *greybacks*, for the outside of houses, sell at from 27*s.* to 28*s.* *per* thousand, carriage included. Common bricks, for inside work, at a guinea. Unless the earth with which the ground is filled up, is of a very good quality, or unless great quantities of manure are laid upon it, some time must elapse before the field recovers its former fertility. There are many who object to such a manufacture being suffered in the neighbourhood of the metropolis, considering it offensive and unwholesome. On the other hand, it is contended that fire is a great purifier of the atmosphere, and that, in close and hot weather, a number of brick kilns, all round London, is of real use to the health of the inhabitants.

Common fields.—Though it is a circumstance hardly to be credited so near the metropolis, yet certain it is, that there are still many common fields in the county of Middlesex. It is unnecessary to enter into every particular instance, it may be sufficient to give a single case or two, which will prove the absurdity of that system. In the parish of Fulham there is a tract of above 400 acres of most excellent land in that state. Only horses, however, are admitted on it, and being what is called *Lammas Land*, it is common only from Lammas to Michaelmas, during which period, at the same time, a great deal of mischief is done by poaching the ground, &c. The rent of these fields, in consequence of their situation and natural fertility, is now about £3 *per* acre, but would be increased at once from

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one to perhaps two pounds *per acre per annum*, were they divided among the proprietors, and were every ground of dispute among their respective tenants completely obviated. Near Enfield also there is a large tract of common field land, watered by the New River, at present condemned to lie fallow every third year, which, if inclosed, might be converted into excellent meadow, and would let immediately at 40s. *per acre*.

R A N T E X P E R I M E N T S.

IN the account of Middlesex, it would be improper to omit taking notice, of some particulars I had an opportunity of seeing, at Earl's Court, in the parish of Kensington, the villa of Mr. John Hunter, the celebrated surgeon, who is trying many experiments, which may be of considerable service, both to the gardener and the husbandman.

Mr. Hunter's experiments, in regard to the vegetation of trees, it would be improper much to anticipate, until the result of them can be fully ascertained. He is very curious in plants, and has, in his green-houses and hot-house, a great variety of the most choice and rare productions of nature, in the collection of which he has neither spared pains nor expence.

With respect to forest-timber, this gentleman has at present an object under experiment, of very great importance, whether considered as a matter of curiosity, or of real utility. He conceives, that by a certain method in the training and management, he shall be able to direct or determine, the growth of trees, (but to what variety of species this will extend, he is not yet certain), to any particular part of the trunk he may choose. For example, if from an oak, a plank is wanted of any given length and of an equal breadth at both ends, for a particular purpose, he is of opinion, that the tree may be trained and disposed to grow in such a manner that it will yield the plank of the exact dimensions required. He has a few under train of different species, which shews the principle; but as Mr. Hunter very properly observes, there may be some trees that may be more easily determined in their growth than others; and for this, as well as many other obvious reasons,

sons, it will be a work of time, before a complete system can be decisively ascertained. By a particular operation also, he can make a dormant bud grow, where none otherwise would have appeared; and has carried his experiments so far, as to make trees grow thicker above than below, inverting thus the natural order.

To procure turf, in which heath has grown, for his green and hot-house plants, Mr. Hunter found was not only expensive, but, what was still more disagreeable, he was laid under obligations to others for liberty to cut it off their grounds; he therefore began to consider, that as this turf was no other than the roots of vegetables rotted, something else might be substituted, which would answer equally well for raising his plants:—oak-bark naturally occurred to him; and for a trial he caused a quantity of it, after having served the purposes of the hot-house, to be buried, in this exhausted state, in the earth for upwards of eight years, when it was taken up, and being used in place of the turf, he found it answer in every respect as well, and continues to use nothing else.

The variety of birds and beasts to be met with at Earl's Court, is matter of great entertainment. In the same ground you are surprized to find so many living animals, in one herd, from the most opposite parts of the habitable globe. Buffaloes, rams, and sheep from Turkey, and a shawl-goat from the East Indies, are among the most remarkable of those that meet the eye; and as they feed together in the greatest harmony, it is natural to enquire, what means are taken, to make them so familiar and well acquainted with each other. Mr. Hunter told me, that when he has a stranger to introduce, he does it by ordering the whole herd to be taken to a strange place, either a field, an empty stable, or any other large out-house, with which they are

all alike unaccustomed. The strangeness of the place so totally engages their attention, as to prevent them from running at, and fighting with, the new-comer, as they would most probably do in their own field, (in regard to which they entertain very high notions of their exclusive right of property) and here they are confined for some hours, till they appear reconciled to the stranger, who is then turned out with his new friends, and is generally afterwards well treated. The shawl-goat was not, however, so easily reconciled to his future companions: he attacked them, instead of waiting to be attacked, fought several battles, and at present appears master of the field. It is from the down that grows under the coarse hair of this species of goat, that the fine India shawls are manufactured. This beautiful as well as useful animal, was brought over only last June from Bombay, in the Duke of Montrose Indiaman, Captain Dorin. The female unfortunately died. It was very obligingly presented by the Directors, to Sir John Sinclair, the President of the British Wool Society. It is proposed, under Mr. Hunter's care, to try some experiments with it in England, by crossing it with other breeds of the goat species before it is sent to the North*.

Mr. Hunter has built his stables half under ground; also vaults, in which he keeps his cows, buffaloes, and hogs. Such buildings, more especially the arched byres, or cow-houses, retain a more equal temperature at all times, in regard both to heat and cold, and consequently are cooler

* Extract of the letter from Bombay, to the directors, respecting this goat, transmitted by Mr. Dominicus, of the India-House, to Sir John Sinclair: "Your servants at Buffora, contrary to their expectations, have lately procured and sent to this presidency (Bombay) two animals that produce the shawl-wool. They advise us that they are of the best colour, and tolerably hardy. The wool, which grows on different parts of their bodies, under very long hair, is obtained by gently combing them."—A South America she-goat, it is supposed, is already with kid by him, at Mr. Hunter's.

in summer, and warmer in winter ; and in situations, where ground is so valuable as in the neighbourhood of London, are an excellent contrivance. Mr. Hunter has his hay-yard over his buffalo-stables. The expence of vaulting, does not exceed that of building and roofing common cow-houses ; and the vaults have this essential advantage or preference, that they require no repairs.

Mr. Hunter has caused his buffaloes to be trained to work in a cart ; at first they were restive, and would even lay down ; but now they are steady and so tractable, that they are driven through the streets of London in the loaded cart. These animals do not draw greater loads, than oxen of the same size and weight ; and when one considers, to what valuable purposes, oxen can be employed in the various labours of the husbandman, it is matter of regret, that they should be so seldom used in England for draught *.

* The practice of working oxen, as well in the draught as the plough, used formerly to prevail more in the Northern parts of England than it does at this day. The use of horses has been substituted in their stead, in consequence of the greater dispatch with which they perform their work. But stiff, heavy, clay-soils are never so well ploughed, nor to such good purpose, without the aid of the bullock, as they would be with it. In regard to Middlesex, Dr. Wilkinson, of White-Webb-House, near Enfield, has used an ox team for these last three years, and chiefly depended on them for breaking up 100 acres of waste land on Enfield-chace. He purchased six in Suffolk, at the price of eleven pounds *per head*. The severest labour being now finished, in the first breaking up the turf, he now uses only four in a plough ; and when the land is well worked, a pair is sufficient for a light plough. On a large farm, an ox-team will always be serviceable for strong work, or for dung-carting from the fold-yard ; but they will not stand constant work on very hard roads. Dr. Wilkinson has frequently had them shod, but they soon cast their shoes. He works them in collars in preference to yokes. In general the Doctor considers them not so applicable to the systems of husbandry pursued in Middlesex, which includes so much road-work in going to, and returning from, the London-market.—Mr. Byng (member for the county) has lately had an ox-team from Suffolk, which he works in the neighbourhood of Mims and Potter's Bar. Dr. Wilkinson calculates that six oxen generally consume a load of hay in nine days : he never gave them oats ; but has observed that they will not stand hard labour unless the hay is of a very good quality.

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That oxen are a surer stock to the farmer, nobody will deny: they are not only fed at less expence than horses, (inasmuch, that ground may be ploughed by one at half the expence it costs by horses) but they are not liable to so many diseases. Besides, when a horse is old and worked out, he fetches nothing; whereas, the ox, after serving all the useful, laborious purposes of the farmer for many years, is at last turned into the stall, and, being fattened for market, brings the judicious owner a price equal, if not superior, to what he could have received for him, at a period of his life the most fit for labour.

This Gentleman has at present a very beautiful little cow from a buffaloe and an Alderney. This animal is in some measure kept for her beauty; and, what adds to it, she is always plump and fat, whether in summer or winter, and upon much less food, than would be sufficient to support a beast of the same size of the ordinary breed. I do not find that she exceeds in quantity of milk, but the quality is very good; and it is certain that she could be fattened at much less expence than any ordinary cow of the same size and weight.

Among the experiments now going forward in Middlesex, one of the most important undoubtedly is, a cross that has been tried between a Spanish ram and two Shetland ewes: four lambs have been already produced from this mixture. The Spanish breed, it is well known, is distinguished for the fineness of its pile, and the Shetland for its softness and colour. If these qualities were united (which, so far as can be judged from the experiment above-mentioned, is likely to be the case), the article of wool would be brought to its highest state of perfection.

HINTS

4. HINTS FOR IMPRO

TO venture to point out the methods, by which the present state of agriculture in Middlesex might be improved, considering the very high degree of cultivation which it has already attained, at least in some parts of it, in consequence of the many concurring circumstances in its favour, might be considered perhaps presumptuous and unnecessary. I shall hazard, however, with great deference, the following short observations.

Hardly any thing farther seems material to add, to the observations already made on the improvement of the waste lands. To that great object, the attention of the Board of Agriculture will naturally be directed: and a happy circumstance it will be, if, under their auspices, every acre in this, and in every other county in Great Britain, is brought under some useful and profitable mode of occupation. On this head, however, it is impossible to omit mentioning, the very important observation made by Dr. Wilkinson of Enfield, who thinks a general mandatory inclosure-bill absolutely necessary. The grand obstacle to the inclosing of commons arises, from the unpopularity, to which gentlemen who are active in the cause, expose themselves in their own neighbourhood, from the discontent of the poor, when any such question is agitated. No opposition to such a measure, however, would be made, if sanctioned by the authority of parliament, and enforced by the united wisdom of the British legislature.

The garden-ground, in general, cannot be better cultivated than it is.

The more frequent use of the plough, however, as a saving of labour to the market-gardeners, in the preparation of great part of their extensive grounds, for the more common vegetable productions, such as parsnips, cabbages, &c. is worth their consideration. Some gardeners already follow this plan; but instead of a light plough, which in garden-ground would require only one horse and a man, strong heavy ploughs, which four or five horses can hardly drag along, and which require a ploughman and a driver, are made use of for that purpose.

The culture of parsnips ought to be more attended to in Middlesex than it is. They are an excellent food for cattle, horses, and pigs. They are, in particular, a very rich food for cows, and yield excellent milk and butter. Horses fatten quickly upon them; but, like boiled potatoes, though they make them flabby fat, they are not able to perform so much work, as when they are fed upon harder food. This root, there is every reason to believe, would be a very valuable acquisition to the farmer for spring food, preserved in dry sand, in pits, in the same manner as carrots and potatoes are at present kept during the winter.

If hay from seeds, would fetch an equal price at market, with what is called hay from meadow, the farmer, it is presumed, would not only find a much greater weight upon the acre, but it would give him an opportunity of having his lands more frequently cropped with grain; as the general reason for keeping lands almost continually in grass, is, the difficulty of restoring the sward. By sowing artificial grasses, the object is obtained at once; and I see nothing contrary to the practice, but the prejudice of buyers against hay from seeds, which it is most likely may be got over, upon a fair and comparative trial.

If

If this plan of cultivating artificial grasses were gone into, the production of grain, might be carried on to a considerable extent in Middlesex, where, from the superabundance of manure, it can be done to great advantage. About 15,000 acres of wheat *, in addition to those now commonly sown, would prevent the necessity of importing even the smallest quantity of that article from abroad, and as the county of Middlesex itself could supply the ground that is necessary for that purpose; consequently, it is an easy matter, to prevent our being obliged to depend on foreign countries for bread. Fifty years have not elapsed, since Great Britain was accustomed to export grain, to the value of above a million and a half *per annum* †. The period has again arrived, when, under the auspices of a Board of Agriculture, we may once more look forward to the same happy times. Encouragement to the husbandman, or rather the removal of discouragements, is all that is necessary for securing that valuable object.

The high price of lime (about 27 shillings *per* load), probably in consequence of the great demand for that article, for the purposes of building, makes it but rarely made use of as a manure in Middlesex. Means of obtaining it at a cheaper rate, ought, if possible, to be contrived. Perhaps all over the island, there could not be a better plan for employing the poor, than in preparing lime. The demand for that article, were it moderate, must be unbounded; and if conveyed by sea (which would often be necessary),

* See Sir John Sinclair's Address to the Landed Interest on the Corn Bill; in which this calculation is stated:—The balance of wheat, imported for 18 years, ending January 1, 1789, is 747,841 quarters; which is at the rate of 42,657 quarters *per annum*. This, at the average of 3 quarters *per* acre, would only require 14,219 acres.

† During the space of only 5 years, from 1743 to 1749, no less a quantity than 3,768,440 quarters of corn, of different kinds, the value of which, at the medium price of from 40 to 45s. could not be less than 8 millions, were actually exported.

For remarks and additional observations.

it would furnish a very important source and consequently of naval strength.

The effects of water as manure, is total over this district, though it is perfectly evident that there is none more efficacious, when put to use. Along the banks of the Thames and the other rivers are extensive tracts of ground, which might be brought, at a small expence, to the highest produce. It is said that the greatest part of the land might thus be improved. Amongst the different sorts of watering ground, it is not the least, that of making use of any other manure, on the land being treated, being totally obviated, the farmer is enabled to make use of all the dung which his farm produces, to the enriching of his other fields.

On the banks of the Thames, particularly on the south side, there are extensive meadows, which ought to be better, being, comparatively speaking, of very little value, in consequence of their being so frequently flooded by the river. They sometimes produce three load of hay *per* acre, at one cutting, of a coarse quality, as not to sell for half the price of meadow hay. Such land, at present, is let for 10 shillings *per* acre; which, were it embanked and put in garden-ground, would, in consequence of the moistness and richness of the soil, and the use of manure by barges, fetch £.4. and even with the expence could not be great, as neither the tides nor floods, are very strong.

The mixing of salt with the food given to other sorts of animals, in all possible ways, is particularly recommended both for preserving the animal, and, in the case of milch-cows,

the quality, and increasing the quantity of their milk. In other countries, we are told, that salt dissolved into brine, is sprinkled over the pasture-land, which makes the grass much wholesomer, and more nourishing. Salt also, is mixed amongst the hay when it is put up, greatly to its advantage; and the experience of the cow-keepers in the neighbourhood of London, sufficiently ascertains the greater avidity with which cattle devour their food, when mixed with salt, than when no such ingredient is put into it, a practice which they have been obliged to give up, in consequence of the expence attending it. Salt, also, is an excellent manure, particularly for rich land. If the importance of salt to husbandry were sufficiently understood, there can be no doubt, that the legislature, would soon be induced, to raise the same sum of money, which the tax on salt produces, by some other mode, less prejudicial to the general interests of the country.

It is remarkable, that all the environs of London, there is hardly a pond to be met with, that a horse can drink of, or that is almost fit for washing his heels in.—A few ponds of fresh water, especially upon the great roads entering the city, would not only be a very great comfort and ease to the traveller, but also a great convenience to the people residing in the immediate neighbourhood. It is also believed, that in Middlesex sufficient attention is not paid to the digging of ponds in the fields for the use of the cattle; from which circumstance, in dry seasons, they suffer much.

Middlesex can never be a breeding county; and the only kinds of stock likely to be attended to in it, are cattle and horses. In regard to the first, more attention to the breed may be safely recommended. The neighbourhood of the metropolis, ought to be distinguished by the best breed, of every sort of animal, cultivated there. In that, as well

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as in other respects, the capital ought to take the lead, and to shew an example to the remoter provinces. Every experiment ought to be tried, where it can certainly be done to the best advantage; and any breed, when brought to perfection in Middlesex, ought afterwards to be spread over the rest of the kingdom. Whereas, in regard to oxen at least, the distant counties of Durham and Northumberland, produce the largest and heaviest bullocks of any in the united kingdom. The cattle of this county, are certainly of a middling, and, in general indeed, rather of an inferior sort, whether for the dairy or the butcher. As to horses, those to be found in London, cannot, any where, be surpassed, either for strength or beauty.

There is every reason to believe, that the management of the dairy, is particularly well understood in Holland, and that there are many practises there, which might be adopted in these kingdoms with very great advantage. It is therefore humbly submitted to the consideration of the Board, whether it would not be advisable, to send a very intelligent person there, skilled in dairy management, to examine their breed of cattle, and their mode of treating them on the spot, as many hints might thus be obtained, of the utmost service, in this important branch of rural economy.

There are some commons near certain villages in Middlesex, and in other counties in the neighbourhood of London, as Clapham, Wimbledon, Putney, &c. the inclosure of which would be objected to, as tending to prevent that free circulation of air, so conducive to the health of the inhabitants; and to shut up places, calculated for the recreation and amusement of themselves and their families. These objections, though they have at first some appearance of weight, yet are easily obviated; and the following plan, for that purpose, has occurred to a very zealous friend to the improvement of the country.

It

It is certainly a national loss, to suffer as fine land as any in the kingdom, to lie almost totally waste. To bring it into culture, let a lease of it be granted, under the authority of an act of parliament, by public auction, for 15, 20, or 31 years, and always relet on the following or similar conditions; 1. That the tenant shall bring the common into complete good order, within three years; the ground to be sown with white and yellow clover, and other short grasses; and to be fenced in. 2. That he shall keep a certain number of milch-cows, and shall supply the poor in the neighbourhood with milk, at a certain fixed and rather low rate. 3. That he shall be obliged to furnish the poor, having an interest in the common, with fuel, at a certain fixed and equitable rate, all the year round. 4. That he shall stock the common with the finest woolled sheep, of the clothing sort, who love spacious downs, and a short bite, which will preserve those breeds in the country. And lastly, the rent to be divided among all concerned, according to their respective interests. These are short hints, merely to explain, the general nature and tendency of a measure, which may be intitled to future consideration. This plan may be adopted, either by one individual, with a view of profit, or by a number of gentlemen, who may undertake it for amusement, and in order to ornament and improve their country.

On the whole, when compared to the extent of the district, the field for improvement, and for additional wealth to the public, is very considerable: to what extent cannot be exactly ascertained. But it can hardly be doubted, that if every acre in Middlesex, were carried to the highest pitch of produce of which it is capable, and if the stock in the county were brought to its greatest possible perfection, that it might be the means of adding, *A MILLION per annum*, to the general opulence of the nation; an acquisition,

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which,

For remarks and additional
observations.

which, it is to be hoped, will soon be obtained in future times, will naturally and justly be that institution, which has fortunately directed attention, to the agriculture and internal improvement of the country, in preference to every other concern.

London, July, 1793.

N. B. It is well intitled to the attention of the public, in the county of Middlesex, and, indeed, of the whole of the kingdom, to try the method adopted in making *suave butter*; by which that article is rendered far more preferable, as well as infinitely more useful.

The general practice of butter-making has hitherto been to churn the milk for cream; which, from day to day, until a proper quantity is procured, and then to churn. In *very warm* weather this process takes many days in perfecting, so as to produce but a small *consumption*; but, in *cold* weather, the cream, **IS IN A STATE OF PUTREFACTION**, and does not arrive to a proper substance for churning. This fact sufficiently accounts why the butter made in England keeps well for any length of time.

In Ireland the mode is quite different, and is much more salutary. There they quicken the process by adding **THE WHOLE OF THE MILK TO THE CREAM**. In summer, it is prepared in *one* or *two* days, and it is worthy remark, that the butter made in *cold* weather in Ireland is as completely cured for consumption as that made in *warm* weather.

* The Irish, in winter, ripen their milk, as they term it, by adding *warm* meal to the cold one—additional warmth contributes greatly to the process—whereas, in England, one cold substance is added to another cold substance—want of warmth, the cream will sometimes appear of various colours before it is ripe.

that which is made in autumn. By churning the *whole milk together*, it is most probable that the waste will not be so great, as in collecting the cream, as in England, consequently the produce of butter will, in a considerable proportion, be increased; the butter-milk is much more palatable and more useful, and the butter itself will preserve its purity longer for household use or for exportation.

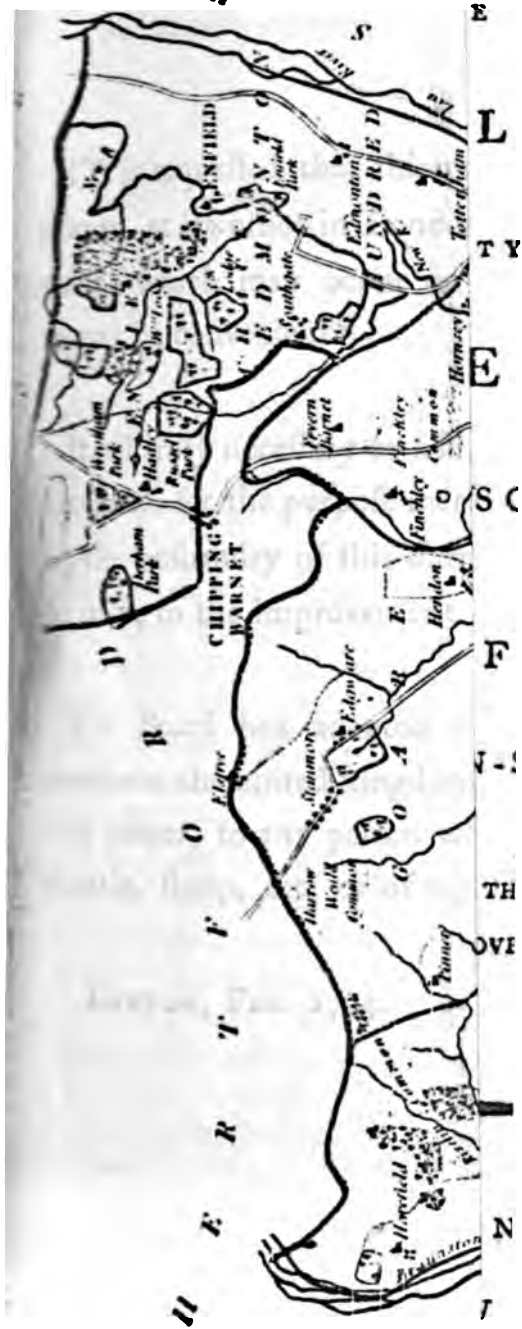
Whence, therefore, do the advantages of the Irish dairies over those in England appear to arise? not from the climate or soil, for they are both nearly the same; nor from the stock, for that in Ireland is greatly inferior to the stock in England; and the best breed they have is from England: certainly then the difference must arise in the *manufacturing*





GENERAL VIEW
OF THE
AGRICULTURE
OF THE COUNTY OF
MIDDLESEX.

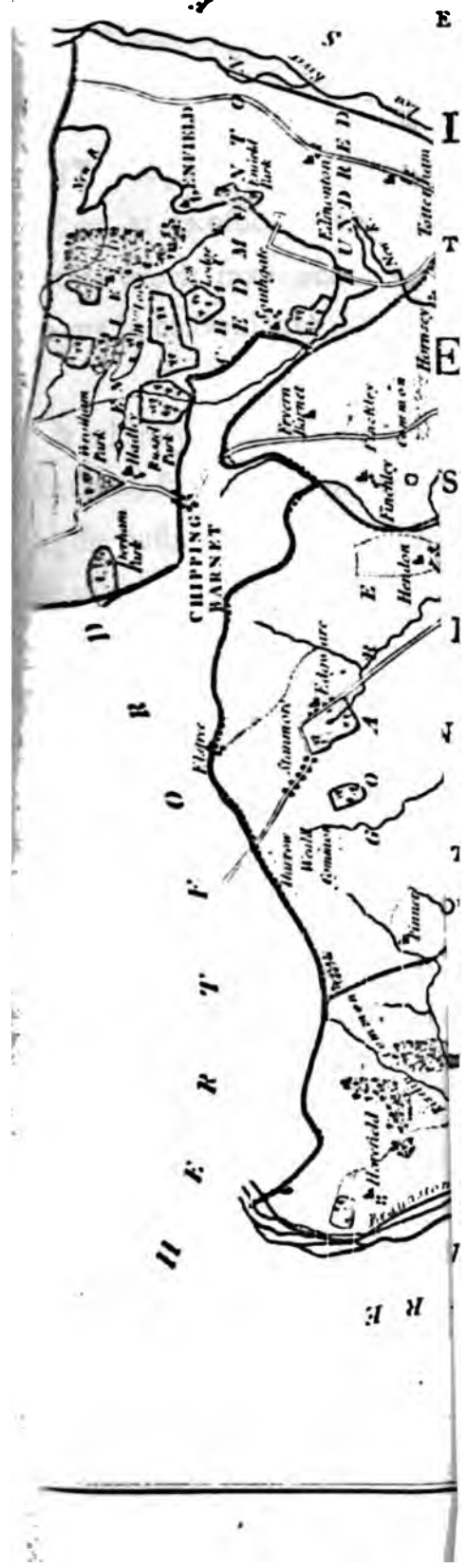




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GENERAL VIEW
OF THE
AGRICULTURE
OF THE COUNTY OF
MIDDLESEX.



Besides the river Lea, and the river Thames, aforementioned, there are the rivers Brent and the New-River; the latter of which supplies the greater part of London with water.

There is likewise a navigable canal leading from Hertfordshire along the banks of the river Lea, with which it forms a junction in the neighbourhood of Bow, from whence the united streams run to Limehouse, and incorporate themselves with the waters of THE THAMES.

The Branson canal also, which is now nearly finished, enters Middlesex near Uxbridge, passes by Drayton, runs near to Cranford, at a little distance from Osterley-Park, and forms a junction with the river Thames at Brentford.

A new canal from Taplow-Mill, at Bolters Lock, in Buckinghamshire, to form a junction with the Thames at Isleworth, is also in contemplation.

THE SOIL of this county is abundantly fertile, and for pasturage, and grain of all kinds, is not excelled by any other county.

Besides the royal palaces there are many elegant villas belonging to the nobility and gentry; and, towards the North East part of the county, are many high hills and eminences of good ascent, remarkable for extensive and rich prospects, and from whose tops the delightful vale formed towards the South and South West part of the county, is wholly seen.

I. THE SOIL

THE soil of the HUNDRED OF EDMONTON, including South Mims, the land of which is about one-third arable and two-thirds meadow; Enfield, the land of which is about three-fourths arable, and one-fourth meadow; Edmonton, the land of which is about one-half arable, and one-half meadow; and Tottenham, the land of which is chiefly meadow, consists of clay, strong-loam, and a small part gravel.

The soil of the HUNDRED OF GORE, including Hendon, Harrow, Edgware, Stanmore, and Wembley, the land of which is almost, without exception, meadow, consists generally of a stiff clay, with a small portion of gravelly loam.

The soil of the HUNDRED OF OSELSTON seems to be distinguished by five kinds.

FIRST. In the vicinities of Barnet, Finchley, Highgate, Hornsey, and Hampstead, the land of which is meadow, the soil consists chiefly of clay, with small portions of gravel and loam. Around Wilsdon a deep stapled soil clay, with a mixture of loam and gravel, prevails.

SECOND. In the vicinity of Newington, Clapham, Hackney, Bethnal-Green, and Stepney, the land of which is meadow, intermixed with garden-grounds and nurseries, the soil is rich and mellow; but the vicinities of Hackney frequently partake of a strong loam, approaching to a clay of that species which is called brick-earth.

THIRD.

THIRD. The soil around Islington, Pancras, and Paddington, which is almost wholly employed first in making hay, and then in pasturage, consists of a gravelly loam, tending in some parts, but in small portions, to clay.

FOURTH. In the vicinity of Kensington, Brompton, Chelsea, Fulham, and Chiswick, the soil varies from a strong, to a tender or a sandy loam, and from a black and fertile, to a white and sharp sand and gravel; and, in the parish of Chiswick, it is remarkable, that in the deepest soil the gravel lies within two feet of the surface. The land of these districts is, in a small proportion, devoted to the plough, but is chiefly employed in raising plants and vegetables for the London markets.

FIFTH. The two remaining places of this hundred, Acton and Ealing, the lands of which are partly arable and partly pasture, seem to possess a soil in a great measure similar to that of Chiswick; about Acton, however, are sometimes discovered soils of lean gravel, and of a deep staple sandy loam. In the neighbourhood of Brentford the soil is of a deep gravel, and towards Greenford and Perival of a strong loam and clay. The lands of these districts, are, almost without exception, arable.

The **HUNDRED OF ISLEWORTH** contains the places bordering on the river Thames, viz. Isleworth, Twickenham, and Teddington, the land of which is arable, meadow, and garden-ground, and consists mostly of a hazel loam, or rich mellow soil. The parish of Heston, the land of which is chiefly arable, contains a small portion of light gravel, but is, in general, a strong loam.

The **HUNDRED OF ELTHORNE**, in the vicinity of Cranford, Harlington, Hillingdon, Uxbridge, and Cowley, the land of which is for the greater part arable, consists of strong loam, and a small part gravel.

The

The soil in and around the parishes of Harefield and Rickip, the land of which is about three parts arable, and one part meadow, chiefly consists of strong loam, with a small part gravel. The soil of the parishes of Harmondsworth and Drayton, consists chiefly of light loam and gravel, and is almost entirely devoted to the purposes of the plough. The parishes of Northolt, Hayes, Southall, and Northcott, consist of a soil partaking of a strong loamy clay and gravel.

In the hundred of Spelthorne, the parishes of Teddington and Hampton, which are chiefly occupied by gentlemen, together with those of Sunbury and Shepperton, consist of a lean gravel, and of a light loam; Littleton, Laleham, Staines, and Stanwell, of a lean gravel and strong loam; Bedford, Feltham, Ashford, and Hanworth, of a lean gravel and light loam. The whole of the lands of these districts is chiefly arable.

2. GARDEN GROUND.

The only additional information to that which Mr. Baird's survey affords, which I have been able to obtain respecting the cultivation of gardens in the several grounds around the metropolis, relates to the important article of manure.

The kitchen gardener, conscious that the extent of his profit principally arises from this source, spares neither labour nor expence, to procure this article. It consists of new horse-dung brought in hot from the stables, and thrown tightly into a heap, so as to afford an opportunity to the air to penetrate from the surface to the centre. In this situa-

tion

tion it is prevented from drying, by being kept watered, and turned every two or three days. It comes quite black, and all its smell is evaporated. The process is completed, which usually occupies fourteen or sixteen days, the dung is made into the form of a ridge, a square, or an oblong, according to the nature of the seeds or plants intended thereon.

This manure, having thus performed its first office, thereby become quite rotten, is spread thick on the ground, and made to mature the plants, which in its former state, it contributed to raise.

The quantity of manure laid on is in general

The gardener, it is said, has no known preference in sowing of any particular kind of seeds (except in some instances).

He begins by general crops of each kind of seeds as possible in the month of February, and repeats this through the whole of the succeeding month, until he practically discovers the wished-for season, by the production of a good crop. As his success cannot depend more on the nature of the soil than upon the quality of the seed, no expence or labour is spared in procuring the best kind. To this manure, and care of sowing, are added kitchen-gardeners who supply the markets at Chelsea, who cultivate in general on a light black soil, of which celebrity in the article of lettuces.

But the most perfect, and best cultivated grounds, seem to be in the vicinity of Chelsea. The neat houses of Mr. Turwin afford ample proof. The district consists of a light sandy soil, richly manured. The hothouse makes the kitchen garden complete; and the characters of farmer and gardener, are here, united in the same person; for the grounds are filled with grain and vegetables. In the month

ary and February they crop with early pease, to be gathered and sold in the month of June. In a few days afterwards the ground is cleared; the pease haulm stacked up for future fodder; and, the plough being set to work, the land is sown with turnips, which are sold off in the autumn; when the ground is again ploughed, and filled with coleworts for the spring use. Where the first crop of pease is of the marrowfat kind, it is generally succeeded by a crop of favours or late cabbages. Every gardener has a favorite and particular system in the succession of his crops; but they all unanimously agree in the maxim, that to dung well, to dig well, and to seed well, is the only practice upon which the reasonable expectation of a good crop can be founded.

At Isleworth, the kitchen-gardeners adopt the following mode of preserving endive: in winter time, a bank is raised three feet high, and laid sloping to the sun. On this bank the endive is planted out in the month of September. At the bottom of the bank pease are sown. By this means the endive is prevented from rotting, and the pease are ripened as early as if each had been planted on borders under a wall.

3. FRUIT TREES,

THE DIFFERENT SORTS, AND THE MODE OF
ENGRAFTING THEM, &c.

FRUIT-TREES, in all the varieties of their kinds, are so numerous, that it was impossible to collect information of all of them within the time allotted to this survey, with sufficient precision to lay before the Board.

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There

There is a general catalogue of fruit-trees, &c. now compiling, in which the fruits are painted from nature, and the character of each when ripe particularly described, together with their several qualities, in the most correct manner. This work has already occupied three years of incessant labor; and nearly as much more, of both time and labor, will be necessary to render it fit for the public perusal.

The nurserymen about London are at considerable expence in collecting the choicest sort of peaches, nectarines, apricots, vines, apples, cherries, pears, plumbs, quince, medlars, filberts, &c. &c.

The method of engrafting fruit-trees in the several gardens about London is, in general, the same. It is performed in the following manner: The stocks to be grafted, after being properly planted out in rows, and made fit for the operation, are, when intended to form dwarf fruit-trees, headed down with a sharp knife, within six or seven inches of the ground, a little sloping to the south side of the stock. The person who performs this operation, is immediately followed by another, very closely, who with one stroke, or wipe of his knife, cuts off about two inches in depth, or the fourth part thereof, or nearly so, of the south side of the stock, and then cuts about half of the scion intended to be laid very close to the stock. The bark, of both the stock and the scion, must perfectly join, at least on one side. A third person immediately follows the grafter, for grafting must be performed with great expedition; and, with new bafs, or matting well wetted with water, ties both together very carefully, lest they should be in any degree moved or displaced, which would spoil all.

When the stock and the scion are closely tied, a fourth person, in order to exclude the winds, which would otherwise dry the stock, follows with clay well wrought, and

puts about the size, and in nearly the shape, of a goose's egg, upon each; the top of the scion standing perpendicularly out, at the length of two or three buds. Cherries and plumbs must be grafted, or wrought, early in the month of March, if possible; and the scions of all stone fruit-trees should be taken off in the month of February, or May, and laid about half in the earth; for, if they are left on, and the sap rises, they will, when cut, appear brown and spent at the heart; and scions, with this appearance, seldom if ever succeed.

The finer fruits, such as peaches, apricots, nectarines, &c. are always inoculated, or budded, at the end of June, in July, or the beginning of August. This process is far preferable to grafting. The bark of the stock is cut on the north side, perpendicularly, about two or three inches, and gently opened with the handle of the budding knife; and, the bud, or scion, being put in with the greatest care, the bark is closely tied down with wet bafs or matting. This should be done, if possible, in a moist or cloudy day, early in the morning, before the heat of the sun prevails, or, in the afternoon, after it has subsided, as all hot and sultry seasons are unfriendly to this process.

As to the culture of foreign plants, shrubs, &c. I find that foreign plants were first cultivated for sale by the late Mr. James Gordon, at Mile End, whose nursery-ground, now in the occupation of his family, is still, in many respects, the first of its kind. Lee's nursery, at Hammer-smith, particularly for foreign plants, is also of superior excellence.

To describe the almost endless variety of this species of plants would be impossible. The methods of cultivating them are various; as by sowing, laying, cutting, grafting, and budding. The trees raised in the nursery-grounds in the district of Hackney are chiefly sold in England for the

purposes of pleasure-ground, or ornamental gardening; many of them, however, are exported to Spain, Portugal, Italy, Russia, and, before the Revolution, to France: but the quantities exported bear no proportion to the numbers sold for English use. Before I quit my observations upon this district, it may be useful to inform the Board, that at Hackney, Mr. Lodwick's nursery is of great importance and extent. He raises by a particular mode of culture a vast number of American plants, and has at this time a collection of Botany Bay plants in the finest state of cultivation. At Dalston also, Messrs. Smiths are said to possess a peculiar method of cultivating foreign flowers. Brompton, Kensington, Fulham, Hammersmith, Chiswick, Brentford, Isleworth, and Twickenham, are almost a garden and orchard of apple trees, pears, plumbs, cherries, &c. and in rearing them nearly the same methods are followed. Isleworth is also celebrated for strawberries.

To the foregoing information I am happy in being able to add the observations of Mr. Alexander Bowie, upon the culture of the vine; a gentleman, whose attention to the science of Horticulture, during the course of many years, has enabled him to procure much intelligence upon this subject.

James Gessop, gardener to John James, Esq. of Hammersmith, in the year 1778, made a quantity of exceeding good wine from English grapes, which induced him to attend very particularly to the cultivation of the vine. His method of treating this celebrated and useful fruit-tree was as follows: the vine, when it first came under his care, was aged, but had been injured more by neglect, and injudicious management, than by years. He cut almost the half of the whole stem quite away; and layed down half of the remainder of the wood; and the abundant crop of improved fruit which succeeded gratefully repaid his care: The vine, by continual cutting, consisted, in the ensuing year, of almost entirely new wood. In the year 1779 he cut down all the

old wood which was left, and laid the finest wires he could select, perpendicularly, about eighteen inches asunder; some of them three, and others six feet long; and by this means covered the wall with plenty of well-ripened wood. In the year 1780, according to custom, he cut off all the old wood, and laid the young wires perpendicularly in the ground six or seven feet in length, and at the distance of eighteen inches from each other; and of the full crop of excellent grapes which this culture produced, he made wine in the proportion of 100 gallons to 100 yards of wall.

I am persuaded, that, from Hammersmith to Staines, vineyards might be made at little expence, if a small premium were given to adventurers, and no tax laid upon them for some years. It would be well worth the attention of the Board, and would, with care, in a short time, produce a good revenue to the crown.

On the subject of the management of nurseries, with respect to their soil, the general opinion seems to be, that a rich soil is far preferable to a poor soil. Some kind of trees, however, love, when transplanted, a poor soil. The "Spanish chestnut," and the beach tree, are best reared on a poor gravelly bottom; and all sorts of "pines" succeed best on a mountainous and marley soil. The fine quality of the timber is said to encrease in proportion to the slow growth of the tree.

Mr. Lee, of Hammersmith, has already made great progress in the propagation of forest-trees, as well as of plants. Mr. Wheatley, likewise, of Brompton, raises quantities of hardy trees. But although the inclination for the culture of this species of tree seems encreasing, it has yet, from want of proper encouragement, made very little progress. The quantities raised in the county of Middlesex are very small; but, from the best intelligence I could procure,

elm,

elm, beech, larch, platanes, pines of all sorts, birch, ash, chefnut, walnut, acacia, and laburnum, might, with proper encouragement, be cultivated in this county to a very beneficial extent.

The best soil for raising forest-trees, is said to be a good loam.

The waste-lands in the county of Middlesex, would, if divided, inclosed, and improved, produce fine crops of corn; or forest-trees might be reared thereon with little expence. Mr. Bowie, whose name has already appeared in this report, and who is well acquainted with every part of Middlesex, informs me that the soil of the waste-lands, throughout the county, is well suited to the growth of forest-trees; that he would engage to enclose in summer, and plant in autumn, not less than two millions; and, that if the Board will pay for labour, he will find plants for three years.

4. COLOURS FOR DYING.

A SUBSTITUTE for madder, from our own indigenous plants, was introduced, in the year 1789, into the nursery-grounds of Mr. William Gordon at Bow, by the discoverer Dr. C. Gordon; he being authorised, by the Lords of the Committee of Privy Council for Trade, to hire one or two acres of land for the cultivation of the madder plant, in order to ascertain to what degree it is capable of improvement, and at what expence it might be cultivated. Various experiments were made, from time to time, to ascertain

these

these facts, and they have been in general sufficiently satisfactory. The plant is found to encrease, in all its parts, to, at least, one third more by cultivation than when wild and uncultivated in the open fields, and that without injuring its colouring qualities. To effect this, however, a light, deep, and dry land, is indispensably necessary; which by a due management, equally plain, easy, and simple, will, at the termination of the fourth year from the planting out, produce a crop of three to four tons on every acre. The colour that this root gives to woollen goods, duly prepared, is truly elegant, and approaches nearer to the scarlet of cochineal than to the red of madder, which, in comparison, sinks to a species of aukward brown. The top part of the plant answers the purposes of *weld*, and gives, particularly to cotton and linen, an elegant and durable yellow. The tops may be annually cut down without prejudicing the roots, and may therefore be sent regularly to market, and made to reimburse the cultivator a portion of his expences. This is certainly a valuable discovery in the art of dying, and an important acquisition to the trade and commerce of Great Britain, as well as to the internal improvement of the country. But this gentleman's discoveries are not solely confined to his substitute for madder; he has also discovered the article of cudber, and that likewise from the indigenous plants of this country, of which article there are now many manufactories in the metropolis; particularly one erected only a few months ago, in Westminster, and carried on under the eye of Mr. Modigliani of Lombard-street, and several other able and scientific men. But this is not all, for I am credibly informed, that Dr. Gordon has extended his discoveries in the art of dying, to the whole circle of tints; and that he dyes fixed and elegant colours, at a cheap and easy rate, by means of such indigenous plants, as either
abound

abound spontaneously in the fields and forests of Britain, or may be easily cultivated in her gardens and nurseries so as to supply, at all times, the utmost demand of trade.

To conceal these discoveries from foreigners who might take advantage of the information, the classes of plants which have been found capable of producing these effects have not been named; and more particulars have not been disclosed, because they were conceived to be unnecessary, as a Committee of the House of Commons has already examined into the merits of these suggestions and received satisfactory information on the subject. To this enquiry I therefore refer the attention of the reader for farther particulars.

5. SYSTEM OF HUSBANDRY

THE most material branch of husbandry, seems to be the proper and judicious rotation of crops, so as to keep the ground always in heart, and yet to draw out the greatest possible profit.

In the district of South Mims, which consists of a light soil, and thin cold clay, the system of husbandry is as follows.

- 1 Summer fallow.
- 2 Wheat.
- 3 Beans, pease, or oats.
- 4 Summer fallow.

On the lighter, or better part of the land.

- 1 Turnips, on a summer fallow.
- 2 Barley, with broad clover.

- 3 Clover, to be either fed or mowed.
- 4 Wheat, on the clover lay, with one ploughing.

In the district of Southall, Norwood, Northcott, and Hayes, the soil of which consists of a strong loam clay, and gravel, &c. the rotation of crops, in those parts which lie in common-fields, is

- 1 Fallow.
- 2 Wheat.
- 3 Barley, or oats with clover.

In the inclosed lands.

- 1 Wheat.
- 2 Barley and clover.
- 3 Turnips.

In the district of Fulham, which consists of a light, black, and fertile soil, the farmers sow

- 1 Barley.
- 2 Coleworts, off in March.
- 3 Potatoes, off in October.
- 4 Wheat.
- 5 Turnips or tares.

Manuring well after the barley.

In the district of Edmonton, which consists of strong loam, they manure well for

- 1 Potatoes.
- 2 Wheat.
- 3 Turnips, on wheat stubbles.

D

4 Oats,

- 4 Oats, or tares, or pease, or beans, to be gathered.
- 5 Wheat.

The lands about Heston are chiefly of a strong loam, and celebrated for producing the finest wheat in the county; the skin is thin, the corn full and bold, and the flower white, or, as the millers term it, fair. The rotation of crops are,

- 1 Wheat.
- 2 Barley, with clover, mowed twice.
- 3 Pease or beans, to be gathered.
- 4 Turnips.
- 5 Wheat.

The lands around Harmondsworth consist of a light loam and gravel, and are cropped with

- 1 Clover, well dressed with coal ashes.
- 2 Pease, beans, or tares.
- 3 Wheat, turnips on the stubbles fed off.
- 4 Barley.
- 5 Oats.

The soil of Chiswick is from a strong to a tender or sandy loam and from a rich and fertile, to a white and sharp sand and gravel. The rotation of crops in this district is as follows :

- 1 Vetches for Spring feed, or pease or beans to be gathered green.
- 2 Turnips, which answer very well on inclosed land; they are not fed off, but sold to, and drawn by, the London cow-keepers.
- 3 Wheat.
- 4 Barley or oats.

But

But before the pulse is sown, and also between the wheat and the barley, the land is well manured.

THE FARMERS in this district have been obliged to pursue this practice, on account of the *Lammas Tenure*; by which the land is deprived of that rest which is so essential to restore its exhausted vigour, and which would be obtained by the following course, viz.

- 1 Pulse.
- 2 Turnips.
- 3 Oats or barley, with clover.
- 4 Wheat.

Manuring well before the pulse.

But, by this rotation, the *Lammas* graziers would avail themselves of the advantage of the clover crop to the injury of the tenant; he is, therefore, obliged to submit to the expence of an extra manuring to pursue the first order of cropping: it is, however, observable, that this extra-dressing does not recover the land equal to the rest obtained by a clover lay; and that such constant tillage is a great promoter of smutty wheat.

Rye and Winter vetches are usually sown in this county about old Michaelmas, and wheat from that time to Christmas; but when the season, and all circumstances will admit, the month of October is preferred for wheat.

Pease and beans, of various sorts, are sown from Christmas to Lady-day.

Summer vetches from Lady-day to Michaelmas, for late feed.

Oats and barley, with rye-grass and clover, from February till May; but oats succeed best in general, if sown before the month of March is expired.

The hay-harvest is in general about Midsummer, and the corn-harvest about the month of August.

THE BARLEY which grows in the parishes of *Chelsea*, *Fulham*, and *Chiswick*, has been for many years distinguished for its good quality, and has been much sought after for seed. When the farmer, from a multiplicity of business, cannot get his land into a fine tilth time enough, or that he has not cut off or drawn his turnips, or is retarded through the inclemency of the weather, the barley is the properest seed to sow, even so late in the season as the month of May; for, though it is late sown, it grows quicker than any other sort, and is frequently ripe so early as the month of *August*. Experience has proved it to be the best barley for malting, after having been once sown in loamey or stiff lands, which give it a much larger body than the sandy loamy land it came from.

This barley has a great advantage over all other kind of barley; for being, by its quick growth, less time abroad, it is less exposed to great rains, which always prove unfriendly to the culture of this grain. This is the reason why the farmers of these parishes have the *whitest*, most thin *skinned*, and *mellowest barley* in England, and which always fetches the greatest price when sold for seed or for malt. I understand, however, that beneficial as the cultivation of this species of grain has been, it has of late years decreased considerably, and been supplanted by the superior profit produced by the growth of vegetables for the London markets. A bushel, of the Winchester measure of this barley, weighed, under my own inspection, fifty-two pounds; but, I am informed, that, taken on an average of years, it will weigh fifty-six pounds weight.

The seed of the different kinds of grain sown on an acre is nearly as follows:

	Bushels.
Wheat, - - -	3 an acre.
Barley, - - -	4½
	Oats,

Oats,	-	-	-	5 bushels an acre.
Beans,	-	-	-	4½ bushels hand drilled.
Pease,	-	-	-	3½ bushels an acre.
Clover seed, about	12	pounds an acre.		
Turnip seed,	-	2½	pounds an acre.	

The produce throughout the county of the above different kinds of grain an acre, is difficult to ascertain ; but, on an average, according to the most authentic information that I have been able to procure, is nearly as follows :

Quarters.

Wheat, about	-	3½ an acre.
Barley, from	4½ to 5	
Oats, from	4½ to 5	
Beans, from	3½ to 4	
Pease, from	3½ to 4	

On the general average of years
and soils, Clover-hay, first

cutting, about	-	-	1½ ton an acre.
Second cutting, about	-	1	ton an acre

Turnips from about 4½ to 9 guineas an acre ; but, as they are generally sold to the cow-keepers, the price varies according to the distance of the carriage, and the scarcity or abundance of the crops.

6. MANURES.

THE price of stable-dung is about two shillings a cart-load.

The price of night-soil, horse-bones raw, bones boiled, bones burnt, and coal-ashes, six shillings a load; foot eight pence a bushel; horn-shavings from six to seven shillings a sack, of eight bushels, well stuffed; leather, dust, and shreds, two shillings and eight pence a sack, of five bushels, well stuffed; the scrapings of sheep trotters, calves feet, and cow heels, eight shillings a quarter; woollen rags, from two shillings and four pence to three shillings a hundred weight; and hogs hair, if wet, fifteen shillings a cart-load.

The above are the prices in London.

The chimney-sweepers, &c. who sell foot in London, mix it, if not prevented, with ashes sifted very small and fine: this they term "spicing the foot."

The expence of each load, when back-carriage is reckoned, to South Mims, which is thirteen miles from London, is 10s. a load; at Hendon, which is seven miles from London, it is 6s. a load.

But if the farmer send his team on purpose for manure, which is sometimes the case, the expence of carriage will be enhanced considerably.

The barges on the river Thames, supply from the different dung-wharfs, those cultivators of land who reside near the banks of the river, at a much cheaper rate. This manure is composed of horse-dung and the sweepings of the streets mixed together.

It

It is delivered at any distance capable of being reached in one tide, at the price of about four guineas for seventeen or eighteen cart-loads, each load consisting of nearly two tons weight.

The cultivators are supplied with dung from the different wharfs by the river Lea canal, in barges which carry about thirty tons, or fifteen cart-loads, and deliver the same as far as Enfield, which is about thirteen miles, for £4. The price of the dung is about thirty shillings more.

Chalk is brought out of Hertfordshire by the river Lea canal barges, from Ware park and its environs, and delivered at Enfield at the rate of £4. for about thirty tons; and it is found to answer as manure on light land with tolerable success: it retains the moisture in a dry time, and on that account is useful to a hot, sandy, and gravelly soil; but, in a very wet cold season, that retention of moisture proves rather hurtful, as it checks the fermentation in the earth, which is the grand principle of vegetation, unless counteracted by a dressing of dung after it.

The dung which is made in the farm yard is also collected into heaps, and mixed with other articles, as loam, ashes, mortar, rubbish, rakings of the roads, and formed into a manure.

Sheep-folding is used in different parishes in the county, particularly around Hounslow Heath.

Mud, as taken out of ponds and the rivers, particularly on Hounslow Heath, is found to answer as a slight manure both on arable and on pasture lands.

The gardeners manure twice every three years at least; the farmers in general only once; and the expence is from about £5. to £8. an acre, according to the distance of carriage and the quantity of manure laid on.

7. PRICE OF LABOUR.

LABOURERS in husbandry are paid 18d. and This is the general price of labour throughout but in the more immediate vicinity of the metro labourers who are called handy workmen are paid as 2s. a day, as well in summer as in winter. of work in summer commences at six o'clock in the morning, and ends at six o'clock in the evening, and in winter months they work from light to dark, about seven o'clock in the morning to five o'clock in the evening. During the summer months they have the option of working over-hours, for which they are paid in proportion to their regular wages.

The price of labour by the piece is as follows

	s.	d.
Mowing grafs for hay, from 3 to 6 acres	3	6
Mowing oats and barley, 3 to 4 do	3	4
Hooking pease, - - 3 to 4 do	3	4
Reaping oats and rye, - 8 do	8	
Reaping wheat, - - 10 to 12 do	10	12

according as the crop is for strength, and whether it is standing or lying down. In the aforementioned prices is included the labour of binding the crop and setting them up into shocks, which is performed by the method called "bagging," an operation by which the crop is cut closer to the ground than is generally done.

reaping. It is, however, a very slovenly practice, and adopted only on account of its being more expeditious.

The price paid for hoeing turnips is from 10s. to 12s. an acre.

Threshing is, in general, a daily labour, and is paid for at the same rate of wages as before described, except for barley and oats, which are threshed by tale, at the rate of 2s. 6d. a quarter, in which price the binding of the straw into 40lb. trusses is included.

In threshing rye and wheat the threshers are paid for as many trusses as they can thresh cleanly out in a day.

Women, in great numbers, are frequently employed by the farmers and gardeners around London in weeding, in making of hay, and in gathering the green pease, beans, and other produce of the gardening lands, for the London markets. Their hours of labour are nearly the same with those of the men. They claim the privilege of gathering the green and ripe fruits by an established measure. But the price of their labour is only one half of what is paid for the same work to their fellow-labourers of the other sex.

At a greater distance from London common labourers are, in the winter-time, paid from 8s. to 9s. a week. They work from seven o'clock in the morning until five in the afternoon: In summer they are paid from 10s. and 12s. a week, and work from six in the morning until six in the evening.

The price of piece work is as follows:

	s.	s.
Reaping and binding wheat, from	8	to 10 per acre.
Mowing, raking, and cocking, barley and		
oats, - - - - -		3 ditto.
Reaping and binding beans, - - -	7	to 9 ditto.
E		Hay-

Hay-binders are paid 20*d.* a load for cutting and binding; and a good hand can cut and bind two loads a day.

8. COMMONS.

THERE are many thousand acres of land in the county of Middlesex, within a few miles of the capital, which at present lie waste, and are of little or no value to the individuals interested in them; an absolute nuisance to the public; and yet capable of very great improvement.

The benefits that will necessarily, and almost immediately, result to society, as well as to the proprietors of these lands, by their being put into a state of cultivation, is too obvious to every man who has thought upon the subject to need proof or illustration.

It would certainly be found of great and important advantage to the proprietors of waste and other lands, in this county, over which a right of common is exercised for any part of the year, if all such lands and grounds were divided and allotted in severalty, in proportion to the rights of the parties interested in them, for the purposes of inclosure and cultivation.

Those among whom these kind of lands have been already divided, have never been disappointed in their expectations as to the result of their experiments; but, on the contrary, have derived very great and considerable benefit from them; and no small increase has been made to the rentals of their landed property, in consequence of those divisions.

divisions. But the gain arising to individuals, is by no means the only good, that would be produced by the division and improvement of waste and commonable lands: the public would immediately profit by it in no small degree; for the suspended hand of industry would thereby be constantly furnished with employment; the prevailing notions of emigration removed by the prospects of advantage it would afford; and the public would be enriched by the consequent increase of the general stock of corn and cattle.

The usual mode of atchieving a division of the common lands of particular districts, is for the principal proprietors to call a general meeting, of all persons entitled to a right of common, or any way interested therein, in order to discuss the expediency of dividing and inclosing it; and if a majority of two thirds, or three fourths in value, are in favor of the division, notices are affixed to the door of the parish-church, signifying the intention of the parties to apply by petition to Parliament, for an act to empower and require such division to be made, by the judgement and discretion of commissioners and arbitrators to be named therein, and on such clauses and regulations as shall be agreed on by the parties interested, subject of course to such alterations and amendments as shall be made in it by each House of Parliament. But this mode of procuring a division of commons by a special application to Parliament, is always burthened with great expences, and subject to many great inconveniences and difficulties, which frequently prevent its being adopted. And, indeed, it seems an opinion almost unanimous among those who have thought upon this subject, that one general act of Parliament, to empower the division and inclosure of all the waste and commonable lands in the kingdom, would

be thankfully received by every individual, and prove an equal benefit to them and to the public.

The encouragement which has of late been given to the opening of new communications through the country, by making navigable canals in different parts of it, tends very considerably to facilitate the improvement of waste lands; and if not carried to too great a length, or sacrificed to the schemes of interested projectors and mercenary jobbers, must prove a national benefit: For navigable canals introduce abundance of lime, chalk, and other manures, to the different parts of the country through which they run, and where they were never seen before.

But it is time to pass from these general observations to the subject of **THE COMMONS** in the county of Middlesex.

Among the commons, now uncultivated in the county of Middlesex, are

Hounslow-Heath.

Finchley-Common.

The remains of Enfield-Chace.

The commons in the parish of Harrow, are

Harrow-Weald-Common,

Pinner-Common,

Sudbury-Common,

Pinner-Marsh,

Roxhull-Green,

Apperton-Green,

Wembley-Green,

Kenton-Green,

Greenhull-Green.

The

The commons in the parish of Hillingdon and Uxbridge are

Uxbridge-Moor,
Uxbridge Common,
Memsey-Moor,
Hillingdon-Heath,
Gould's Green,
Peil-Heath.

There are also

Rifelip-Common,
Sunbury-Common,
Hanwell-Common,

Worm-wood shrubs, in the parish of Fulham,.

And between four and five hundred acres of waste-lands in the parish of Hendon, &c.

Of these waste-lands, however, I have only been enabled to procure accounts of the following particulars.

9. STANWELL INCLOSURE.

THE waste-lands of the parish of Stanwell previous to the inclosure, of which there is an account in the former survey, consisted of something more than 500 acres; of which about 350 acres were part of Hounslow-heath. In their former state, they were worth little or nothing; but such was the effect of inclosing them, that they were let immediately afterwards from 15s. to 25s. an acre, and upon an average at £1.

The common-field lands were, on being inclosed, almost throughout the whole parish, improved in rent from about 14s. to £1. an acre.

On

On the inclosure taking place, I am informed that thirty acres were set apart, and let for £1. an acre *per ann.* and that every cottager, in the parish, who did not receive alms, and did not rent a cottage of more than £5. a year, had a proportionable part of such rent divided among them in equal proportions.

The tenants have found great advantages in sowing artificial grasses and turnips in that part of the inclosure which lay formerly in common-fields, and are thereby enabled to keep as much stock on part of the land as they did before on the whole; and when that part, which has been taken in from the heath, is brought into a regular course of cultivation, there cannot be a doubt but that the tenant will derive advantages equal to those which the land-owners enjoy; but, as the greater part of the new-inclosure is not yet brought into a regular state of cultivation, it is impossible to give a particular account of the quantity or quality of its produce *.

* To the foregoing observations relating to a portion of ground formerly part of Hounslow Heath, I shall subjoin the copy of an ancient ordinance, with which I was kindly furnished by Sir William Gibbons, bart. of Stanwell place, and which shews the original rights, claimed by different parishes on Hounslow-Heath.

H O U N S L O W - H E A T H.

The Bill of Hounslow-Heath, 37 Henry VIII.

WHERE the King's Majestie ys at this present seased of one estate of inheritance of the waste groundes and soyle comonlye called Hounslow-Heath, conteyning in ytselff fflower thousand twoo hundryth fflower score thyrtyne acres and one roode, lying and extending into the fields, parishes, and hamlets, Iftelworth, Braynford, and Twykenham, Heiton, Feltham, Harlington, Crayfeld, Harmondsworth, Stanwell, Hanworthe, Belfounts, Hampton, Hounslow, and Tedington, in his Grace's countie of Middlesex; his Highnes most prudentlie considering, that as the barrenesse and infertility thereof, by wante of dylygence and industrye of men, necessarye requyred for the amendement or mayntenance of any groundes that shall bryng forth his frute, breadythe as well scarfytie and lacke of all manner of grayne, grasse, woode, and other

necessary thynges, amongs his Grace's subjects thy inhabytance of the said
 parishes, as also is the veraie oryginall mother and contynual nurs of derth
 of thyngs amongs his people dwelling in the confynes of the same, even so
 the conveyson therof into tyllage and sev'al pasture by menys labor and
 paynes, besyds that yt shall be an exile of idlenes in those parties, must of
 necessity cause and bryng furthe to all his said subjects plantie and habundance
 of all thyngs above remembred; and albeyt his Highnes myght justelie, by
 the auntyent lawes of this his realme, approve to his owne peculyar
 profit and advantage a greate parte of the same waste and heath;
 nevertheless, his Majestye most graciouslye tendering more the common wele
 of his subjects there than the advancement of his owne comodytie, hath not
 longe already, to his great costs and charges, caused dyverse of his coun-
 sell, and others of his offycers and mynysters, by vertue of his Grace's com-
 myssion in that behalf to them dyrected, to repayre thither, to vewe, survey,
 and consider, the said wast and hethe, and thereupon to assigne out, by mete
 and bounds, to every of the said parishes, a convenient parte and porcion of the
 same, and out of those parts and porcions, by lott, to apoynte in severaltie to
 every inhabytant within the said parishes and hameletts suche quantite of the
 said heathe, as by the dyscrecyon of the said comyssioners was thought mete
 and convenient, having a speccyall regard to the nombre of the inhabytants in
 every parish, and to the nombre of acres of hethe lymyted to everye of the said
 hameletts and parishes; but also is contented and pleased, at the humble pety-
 cion and sute of his said subjects, to whom and thair posteritye the comodytie
 hereof shall specially redounde, that yt be enacted by his Highnes, as hereafter
 ensybe: Wherefore be yt ordayned, enacted, and established, by the King,
 with thassent of the Lordes Spiritual and Temporall, and of the Comons in
 this present P'liament assembled, and by the authoritye of the same, that suche
 parte and so muche of the said waste and hethe whereof his Grace is now seased,
 or at any time hereafter shall be seased of one estate of inherytance, as shall
 be at any time hereafter by his Grace's comyssioners, or fflowe of them hereto-
 fore named, or hereafter to be named, certyfied under their hands and seals,
 into his Highnes Court of the Augmentacions of the revenues of his Grace's
 crown, to be mete and convenient to be converted, used, or occupied, into
 tyllage, pasture, meadow, or other severall grounds, shall from hensforth
 immediatly be and remayn perpetually copyhold lands, and shall be deamed
 and adjudged of the nature, qualite, and condicon of copyhold lande, to all
 intents, construccion, and purposes. And that every tenente, inhabytant,
 reysante, and others, their heires, successors, and assignes, and the heirs, suc-
 cessors, and assignes, of every of them, shall have and enjoye suche
 right, tittle, interest, possession, remaynder, and reverfyon, of and in the
 porcion and parte of the said wast and hethe, to them or any of them
 by the said comyssioners assigned, or to be assigned, as shall be by the

saïd comyssioners, or fower of them at the lest, by copy to them or any of them to be had and made, declared, or expressed, and the same shall be certyfied in to the saïd court of Augmentacions under there hands and seales. And be yt further enacted, by the authorytye aforesaid, that all and every tenate, inhabytant, and resyant, and other above remembered, shall immediately after certificat, made as ys aforesaid, be deamed, adjudged, and taken to be tenate, by copy of court rolle, of the part and porcion to them, or any of them, as ys aforesaid allotted and granted by copy of court rolle to such manor or lordship being within the saïd parishes and hamletts, or any of them, as the saïd comyssioners, or fower of them at lest, uppon the saïd certyficat, shall, under thair hands and seales, assigne and appoynte them or any of them unto, and accordyng to the tenor of the copy of court rolle to hym or them made of the same; and that after assignment and certyficat made as ys aforesaid, the same parts and porcions shall be taken, had, and reputed, to all intents perpetuallie, as only members and parcells of the manor or lordship whereunto they ar so appointed and assigned; and that the stewarde for the tyme being of any such manors or lordships, whereunto any part or porcion of the saïd heth or waste, shall be by the saïd comyssioners, or fower of them, assigned unto, shall, after certyficat thereof as ys aforesaid, have full power and authority from tyme to tyme, as the case shall justlye requyre, to lett and grant the same, by copy of court rolle, to any person or persones, to hold the same parts and porcions, accordyng to the estate and interests prescribed in thair copies, at the wyll of the lord, accordyng to the custome of the manor or lordshippe whereunto the saïd party and porcons are as ys aforesaid assigned or appointed to apperteyn; and also, that all customes, usages, condicions, and ordynances, which the saïd comyssioners, or fower of them at the lest, shall at any tyme hereafter prescrybe, rendre, decrees, or make, concerning any parte or parcell of the saïd wast or heth, shall be as good, firme, and stable in the lawe, beyng certyfied under the handes and seales of the saïd comyssioners, or fower of them at the lest, into the saïd court as ys aforesaid, to all purposes and effects, as yff thais and every of them were particularly recyted and enacted by authorytye of this Parlyament. Provyded allwayes, that yf any suche persone or persones, to whom any parte of the saïd wast and heth shall be allotted, do ether refuse to take by copy of court rolle the parte and porcion to him allotted, assigned, or letten, or to be allotted, assigned, or letten, as ys aforesaid, or ells refuse to convert his saïd part or porcion into tyllage or pasture, and in suche sorte to improve the same, within such tyme as to hym or them shall be prescrybed or assigned by the saïd comyssioners, or fower of them at the lest, that then suche persone and persones as be or shall be tennte for terme of 1yf, for terme of yeres, or at wyll, of such messie, cotage, or lande, in respect wherof the saïd parte and person is or shall be allotted or assigned, shall and maye take, have, and receyve of the saïd stewards, the saïd parte and porcon of the saïd wast, to hold at the will

will of the lorde, after the custome of the said mannor or lordshippe, for terme of twenty-one yeres; the remainder thereof, after the end and determination of the said lease of xxi yeres, to the owner of the said messu, cotage, or lond, to holde to him, his heires, and assignes, at the will of the lorde, after the custome of the said mannor. And be yt farther enacted, by the saide authority, that yf the said lessee refuse that to take as ys abovesaid, that then any other the King's subjects, borne under his Grace's obedience, shall and may take, have, and receyve, the same parte and porcon of the said waste, as ys abovesaid, for term of xxi yeres, with remaynder to the said owner, as ys abovesaid. Provided alsoe, that all and everye suche lessee for term of xxi yeres, as ys abovesaid, shall and maye improve the said parte and porcon of the said waste and heth to hym letten, by cople of court rolle, during the said xxi yeres, without any interrupcion of any owner of any suche messu, cotage, or londs, any surrendre, discharge, determinaçon, or forfayture, of his or thair interest, estate, or terms, of and in any suche messu, cotage, or londs, notwithstanding.

Signed, GEORGE ROSE,
Cler. Parliament.

10. ENFIELD CHACE.

THE parish of Enfield, in its extent, its value, and its resources, is as follows :

FIRST, the contents of the parish of Enfield in statute acres—

	A.	R.	P.	Av. value per acre.	Rental of parish.
Inclosed pasture -	1,646	3	24	30	2,469
Ditto arable and pasture	1,245	1	13	20	1,245
Common-field land	2,746	3	29	15	2,059
Marsh-land -	794	0	9		

A. 6,433	0	35	Total rental
			of land 5,773
			Rents of houses 3,227
			9,000

Amount of the above	-	-	6,433	0	35
Uninclosed parish allotment, subject to tithes	-	-	1,532	2	6
Inclosed by the late act, part of the Chace discharged of tithes	-	-	200	0	0
Total of acres in the parish of Enfield	8,165	:	1		

The King's allotment is not specified in the above account, nor that part of THE CHACE which is set apart in lieu of the predial and vicarial tithes.

The

The rental of the parish being, according to the above statement, £ 9000 a year, a privilege of turning stock upon the common or uninclosed pasture will attach to every person possessing premises to the value of six pounds a year.

This privilege, however, not being restrained to any definite number or description of cattle, there are, upon an average, not less than sixteen hundred and fourteen head of cattle branded and turned on in every year, by which the common is so destructively over-charged, that the end, which the privilege was originally designed to attain, is in a great measure lost: These disadvantages, which the inclination in each individual to monopolize the whole occasions, are considerably increased by the fraudulent use which the more indigent house holders make of the privilege in turning on the cattle of strangers, to agist at a low price.

To secure a certain profit, and to avoid the disadvantages which the avarice of each occasions to the whole, the following plan of stint might be adopted.

Every cottager to be allowed the pasturage of one cow and calf; or two heifers; or one horse; or one mare and colt.

The occupiers of land and houses to be allowed one cattle-gate, or beast-gate, for every £ 6 a year which they respectively rent, reckoning one horse or mare equal to two beasts.

The quantity of stock which would probably be turned on, even according to these restraints, would be a surcharge of the common, as two-thirds of it is wood-land. It might, however, serve as a standard by which the stint might ultimately be regulated, and the benefits of the common preserved.

The number of houses in the parish of Enfield, including cottages, amounts to 920, and the number of inhabitants to more than 5,520.

Of the above number the poor, upon an average, are supported at the expence of 1,380 *per annum* (or thereabouts) by the parish.

	£.	s.	d.
Workhouse	780	0	0
Out-pensioners	600	0	0
	<hr/>		
	£ 1,380	0	0
	<hr/>		

ENFIELD CHACE, though it is now near seventeen years since it was inclosed, has not profited so much by management or exertion, as might have been expected.

The original purchasers of the crown-leases were ignorant both of experimental and of practical agriculture, being, in general, gentlemen retiring from trade into the country, and who, from the former habits of their lives, were ignorant of that regular process of husbandry which new soil requires to bring it into a state of profitable cultivation.

The ground of THE CHACE was covered with trees; and although the oak found a ready sale, the beech did not repay the woodman's labour. The grubbing and stocking up of the roots was a still farther impediment; and the industry of these inexperienced farmers was alarmed and checked by the considerable advance of money which was immediately required to clear the ground. Partial and penurious experiments made upon a raw and crude soil, that had been for ages shut up from the rays of the sun by the thickness of the surrounding foliage, were not likely to be crowned with success. It will not excite wonder, therefore, that the new soil sullenly and reluctantly yielded to the adventurers from the metropolis, the seed they sowed. The wood, however, at length increased in price, and, by the monies it produced, opened a way to the farther improvement of the soil. The half-yard wood, which was originally given as a recompence for clearing the ground, yielded the owner 7s. a stack; the spikes £1. 4s; the 200
bavins,

bavins, when drawn to town, from 16s. to £1. 4s. *per* 100 ; and the spray made up into what they call "pimps," several shillings into pocket.

The account between the master and the labourer now stands thus—

	Labourer.		Master's
	s.	d.	Expences and Profit. s.
One stack half-yard wood, 14 feet long, 3 feet in height, 3 in breadth . . .	4	0	16
Ditto yard wood, ditto . . .	2	0	16
Spokes <i>per</i> 100 . . .	1	6	6
Bavins <i>per</i> 100 . . .	2	0	8
Roots, colliers, ware <i>per</i> stack, the same measure as the half-yard wood . . .	8	0	12
Ditto rough roots . . .	7	0	11
Pimps <i>per</i> 100 . . .	1	6	6
	<u>£1</u>	<u>6 0</u>	<u>£3 15 0</u>

The rise in the value of the above articles evinced, that though the ground refused to repay the toils of husbandry in the produce of grain, it would, at least for a certain time, produce, by the value of its wood, sufficient to answer the call of THE CROWN for rent.

The ground, therefore, though rapidly cleared of its wood, lay, for the most part, in an uncultivated state for many years; for the real intrinsic nature of this soil never having been properly tried, remained entirely unknown.

Time, however, has lately discovered it to be of a strong clay marl, containing a great proportion of calcareous earth, effervescing with acids, and equal, if not superior,

in its quality and effects to most of the marls in this country.

A circumstance of so interesting a nature, not only caught the eye of speculation, but the more useful one of the practical farmer. The gravelly jejune soil, of which **THE CHACE** was originally supposed to consist, no longer imposed an insuperable obstacle to improvement; the marl soon produced its expected effect; and the rapid progress which, within these four or five years, has been made in the cultivation of **THE CHACE** is surprising.

DRAINING seems indispensably necessary to the soils of which **THE CHACE** consists: without it the farmer sees the strength of his manure exhausted, his crop cankered by an almost putrid, stagnant, subterraneous water, which, after every shower, springs from the ground at the distance of from one to six or eight poles. These waters are intersected alternately with clay and gravel; the clay, in many places, forming a complete basin, or barrier round the loose gravel, so that the water, readily penetrating the porous soil, is completely pent up in this natural reservoir. This remark, however, is only applied to the high grounds.

To remedy the above inconveniences, the common shoulder-draining spade and scoop, have been used with great success. A furrow is drawn with the plough, and cleared by a common spade; then the draining instrument is introduced to the depth of eighteen inches from the surface; and, after the loose mould is scooped out, black-thorn bushes, &c. are carefully laid along the bottom, covered with strong wheat-straw, and the whole closed in.

As the lands here lie chiefly upon a declivity, care should be taken, that the drains have an easy, gentle descent, for, if they have too quick a fall, they are apt to burst, or to excavate; and, having lost their protection below, the least pressure from above will destroy the drain.

The prices of draining are as follow :

	£.	s.	d.
3 Gunter-chains, or 20 pole 18 inches deep			
each drain - - -	0	3	0
Double or leading drains 2 feet deep, per			
score - - - -	0	5	0
Bar to each score - - -	0	0	2

Labourers to find tools, and to keep them in repair.

The double drains ought always to be used on the gravelly ground, as a drain shallower than two feet has but little effect. The usual distance at which the drains are made, is in general a pole, or rather less, from each other.

The eighteen-inch drains have, in strong land, been found by experience to produce a more immediate effect than deeper ones; for the clay, from its cohesion, prevents the water from filtrating quickly through its parts, and protects the drains below.

A gentleman, some years ago, informed Mr. James of Enfield, from whom I have received much of my information on this subject, that he had made some brick shores, full three feet in depth, to draw the water from a part of his lawn; but not answering the purpose, Mr. James advised him to try the experiment of the eighteen-inch bush drains; and, by this means, he completely removed the nuisance from his lawn.

Filling the drains with stones is by no means uncommon; but this mode of draining is said not to answer; and, exclusive of the additional expence, it certainly is a mode of draining in every respect inferior to that of filling the drains with brushwood, &c. This, however, may arise from the difficulty there is of procuring stones of a proper size upon THE CHACE; but, perhaps, the marl-pits

may in time, in some measure, supply flints suitable to the purpose.

Mr. James, of Enfield, filled drains with small stones or gravel; but in less than four years the effect was gone: this he imputed to the incrustation which naturally arises from the quality of the water, and the adventitious, and ever-accumulating, particles of earth, carried down by the current, and detained by too near an approach to contact with the superficies of the small pebbles, or rather gravel, which formed the drain.

This idea seems to be confirmed by the strong instances of petrification which the soil of the chace affords, for it is a common thing to plow up a mass in that state, inclosing a multiplicity of gravel and flint stones, wholly and firmly incorporated.

If, however, stones of a sufficient size were to be had, they would perhaps effectually answer the purpose, and have an advantage over the bush-drains in preventing the moles from running into the drains; a circumstance by which the bush-drains are frequently and materially injured.

The manner of forming these drains is by filling the trench up to the shoulders with stones, and then covering them with wheat-straw, or furze; but furze should never be used except when wheat-straw is not to be procured, for the spines of the furze are of a very perishable nature, and generally decay before the drains are settled.

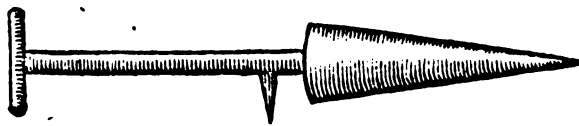
This method of draining, however, would have very little effect in loose crumbly soils where the cause arises from springs, and not from the retention of water by an under stratum of clay; in the former case, recourse must be had to the expensive, yet effectual means of drains made with large stones or bricks.

It is a common, but bad practice, to adopt a partial exercise of this necessary branch of agriculture, and to apply
the

the remedy to those parts only of a field, which appear to be the wettest, without paying a due attention to the origin of the disease. Porous soils, which, for the most part, lie upon the ridge of the hills, greedily imbibe the water, which penetrates quickly to a considerable depth, until it meets with clay, marl, rock, or some substance, to impede its descent, when taking an oblique, or horizontal direction, it appears at the foot, or in the middle of a declivity, and causes a spew, a squall, or boggy piece of ground; and, therefore, when the wet, however local it may appear, arises from this cause, the field should be equally drained throughout.

In setting out the drains great care should be taken that each drain shall separately carry its own water; for, if the double or leading ones be overloaded by feeders drawn into them, the danger of injuring part, and perhaps of destroying the whole work is obvious; for if a stoppage happen near the outlet of the main-drain, it is most likely that the whole of the auxiliary ones will be blown up by the pressure of the water: and in whatever place the obstruction happens, similar consequences must be expected to the drains above.

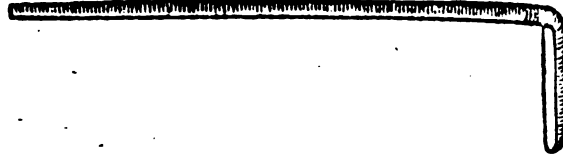
No. 1. Draining spade pointed at the end, so as to form shoulders for the twisted straw to rest upon.



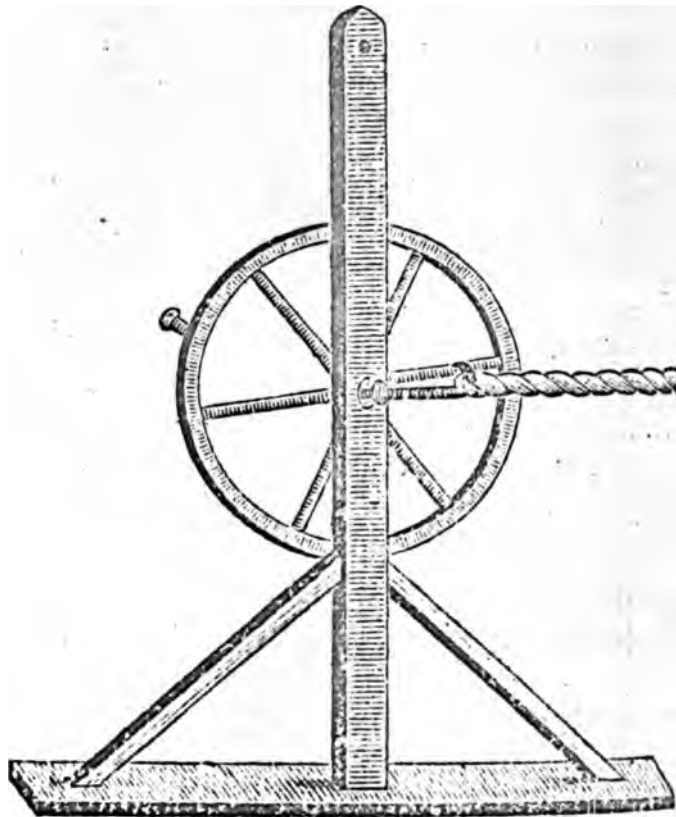
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No. 2.

No. 2. The scoop.



No. 3. Engine to twist straw.



Heath,

Heath, if it can be procured, makes the most durable drains where the soil is a stiff clay; but wheat straw alone, without other materials, will succeed, provided the distances between the drains be not more than four or five yards. Wheat-straw, twisted to the thickness of a man's leg, has been lately introduced as an easy and cheap way of supplying the want of other materials; and this I have no doubt will answer every purpose where the wetness of the ground arises from the various strata of different soils, intersecting each other in such directions as to prevent the water from readily finding its way through the stiff clay, and not from perpetual springs. Drains made in the last-mentioned way will succeed best on strong adhesive soils; for if applied to those of a light crumbly nature, their effect will be but of short duration; and, after the straw decays, the least external pressure will render them totally useless, whereas, if the twisted straw be used on the stiff land, a natural channel will be found upon the rotting of the straw beyond the power of any common weight or pressure to damage.

PARING AND BURNING has been practised to some extent on *Enfield Chase*.

One of the greatest benefits arising from this manner of preparing the ground, is the destruction of the various seeds and roots of plants which lie concealed in the earth; for it is certain that the perennial seeds may, in certain situations, lie long without vegetation. The ground, it is true, is by this kind of ordeal effectually purified; but much of the vegetative quality may be lost by evaporation, sublimation, concentration, or the various chemical changes which take place during the operation; the oleagenous quality, which every sensible author calls emphatically "the food of plants," is expelled; and if it be true that the earth is a menstruum,

barely assimilating or preparing the vegetable nutriment; it may very obviously be inferred, that the above operation robs the ground of a great part of the pabulum with which it is impregnated. Experience, however, is upon this as it is perhaps upon all other points of agriculture, the best test of truth; and it is certain, that very productive crops have been obtained by this kind of husbandry.

Mr. James, whose name I have already had occasion to mention in this report, admits, that lands uncultivated, or in their wild and original state, particularly forests, such as THE CHACE was before its inclosure, will gradually, by adventitious circumstances, such as the fall of leaves, the decay of the vesture, imperceptible fermentation, and the nutritious matter which the soil imbibes from the air, acquire a complete envegetic power, according to the respective properties, which the respective lands possess, of acting upon such of the vegetable kingdom as are consentaneous to them; that the breast-plow, affecting barely the turf or sward, leaves a great part of the vegetable matter behind, which being plowed, and rendered more pulverized, by means of the ashes being spread upon it, the roots of the plants have more room to expand, and the nutritious particles are disposed to administer their whole support to the crop; and that the whole power of the soil being by these means exerted to one end, a good crop may once, or perhaps twice, be obtained by this mode of agriculture: but he contends, that it is by the sacrifice of a number of future good crops, which might be procured by a different process.

There are certainly arguments for and against this practice, and it is in general admitted, that a considerable portion of the pabulum or food of plants, imbibed from the atmosphere, is exhaled by the act of burning. But it may naturally

naturally be supposed, that the ashes remaining after calcination, speedily attract or imbibe from the atmosphere, as much pabulum as they lost in the act of burning.

The Rev. Mr. Cooke, in the month of April 1792, determined, I understand, to make a course of experiments on a farm, which he held in the west riding of Yorkshire, by paring and burning the sward, all over the surface, in the state in which it was left by the spade. The land was intended to have been ploughed immediately after it was burned; but this was deferred, by other business of the farm, for above four weeks; when, to his astonishment, he discovered better than half a plant of spontaneous grass where nothing but heath and ling had grown before. Agreeably surprized by this unlooked-for circumstance, he suffered it to remain in the state it was; and the grass not only thickened very fast, and grew quite green; but being the spontaneous produce of the earth, and not arising from seed that had been sown, continued permanent.

The spontaneous production of this luxuriant grass he accounts for by the parings being burned all over the surface instead of in heaps, and never suffering it to burst into flames sufficient to exhale the pabulum existing on the soil.

The land on which this experiment was tried is a black peat earth, the former produce of it heath and ling. The expence of paring and burning he calculates at 16*s.* an acre; and the present appearance of the land, he says, affords a reasonable expectation, of its being hereafter worth at least 16*s.* an acre, *per annum*.

The idea which Mr. Cooke's experiment produced has been carried into practice on Enfield chace. Instead of burning the surface, the paring is placed in large heaps, and permitted to remain till it is sufficiently rotted, so as

to be used by itself, or with lime, dung, &c. as a compost in amelioration of the ground.

Where the staple is a deep loam or clay, the immediate injury done by the fire is not easily noticed, for the ashes, though robbed of their nutritious qualities accelerate the pulverization, and make the land work, which, on fresh ground, will for the most part insure a crop. New-broken-up ground no doubt is highly impregnated with the pabulum of plants, and requires but the plough and tilth to call forth its strength. This cleansing and working the ground, if successful when applied to old inclosures, will operate more forcibly upon new-inclosed commons and wastes, where centuries have conspired to give a luxury and richness to the superficies; and, it seems certain, that an increased labour of the plough will render less manure necessary, but that an increase of the latter will by no means lessen the exercise of the former.

Breast-ploughing, however, especially on gravelly ground, is accounted improper, because of the shallow staples; and indeed the richness and sterility of the soil may well be compared to human affluence and poverty, the first bears up against repeated shocks of untoward fortune before it falls, the last sinks at its first approach.

The expences of paring and burning are from £1. 9s. to £1. 11s. 6d. an acre, including the spreading of the ashes.

The labourers to find and repair the tools at their own expence.

The expences of carting clay or marl.

	£.	s.	d.
A score or 20 cart-loads of clay or marl, and			
spreading ditto		0	4 0
			<hr/>
			Four

	£.	s.	d.
Four horses and a man, carting 40 loads <i>per</i> day (wear and tear)	0	12	0
<hr/>			
80 Cart-loads are generally allowed <i>per</i> acre.			
Total amount of cartage, &c. <i>per</i> acre	2	0	0
<hr/>			

The expences of paring the ground, and carting off the surface into heaps.

<i>Per</i> Acre from 15s. to 20s.	Paring.
<i>Per</i> Acre	Carting.
<hr/>	

It is to be remarked, that a difference in the prices will arise from the state and quality of the ground; a stony surface works slowly off, and moreover impedes, by often blunting, the spade. In new inclosures the stubbs and concealed roots of trees, greatly retard the parers progress; so that no general rule for charges of this nature can be made.

It has been a common practice on THE CHACE, to break up the ground and sow it with white or black oats; but seldom to any advantage. The thick, tufted, coarse, im-
plicated grass, being turned in, carries most of the necessary moisture from the seed, and proves a harbour for the grub, which is imagined, but with what foundation I am at a loss to tell, very prejudicial to the crops in their seminal stages; add to this the only chance of the seeds effectually vegetating, is between the furrows where a scanty portion of earth is brought together by the harrows. Were it possible to make narrow furrows, the prospect of a return would be greater; but this would be very difficult, if not impracticable, in most places, as a weight of earth is re-
quired

quired to keep them down, and to give the opportunity of operating without tearing up the

The comparative advantages of paring and the surface, and of that of paring and burning collected from the following estimate of the each, brought into one point of view; and profits and expences, for a succession of years balanced the one against the other.

Produce of unpared for two years.

	£.	s.	d.
1st. year, oats per acre, breaking up	-	1	2 0
Seed oats	-	0	10 6
Expences of sowing and harrowing	-	0	2 0
Accidental expences, crow-keeping, gathering roots after plough, &c.	-	0	1 0
Rolling	-	-	-
Cutting oats	-	0	2 0
Gathering ditto	-	-	-
Carting ditto	-	-	-
Thrashing 3 quarters	-	0	3 0
Binding-straw	-	0	1 0

Produce of oats 3 qrs. at £1. 1s.

Straw, a load and $\frac{1}{2}$ at 15s.

Expences deducted.

Nett profits, exclusive of rent, &c.

Pared ditto per acre

Paring	-	-	-
Carting ditto	-	-	-
Plowing ditto 4 teams	-	-	-
Stocking after plough	-	-	-
Harrowing ditto	-	-	-
Two load night-soil, back carriage	-	-	-
Seed-wheat at 30s. a load, 2 Bl. $\frac{1}{2}$	-	-	-
Spreading night-soil a heap, 5d. a load	-	-	-
Crow-keeping, water-furrowing, &c.	-	-	-
Threshing roots	-	-	-

3 3 0

1 2 6

4 5 6

UNPARED GROUND.

Balance brought over
2d year fallow.

PARED GROUND

Expences brought forward
2d. year, reaping wheat
Carting ditto
Thrashing at 10d. a load
Binding straw, 1 loads

Many gentlemen are very sanguine in their expectations of the success of the experiment of paring only, but hope cannot be rationally founded on trials made upon a contracted scale, or on large and liberal experiments, until time and gradual experience have confirmed their effects. For, it is well known, that new-inclosed commons, uncovered with wood, and which have immemorially been pastured upon, especially where they incline to a sandy loam, are the most productive when first plowed up.

Marle is one of the most valuable manures upon THE CHACE, where it is found in some abundance, and is in very general use. The proportion of calcareous earth it contains is considerable, but differs almost in every pit, and frequently in the same pit. Some of it, when burnt, moulders and falls into lime; whilst the contiguous, or adjoining part, bears the kiln, and may be made into brick, but of so incomplete a kind, that in general it scales and falls to pieces when exposed to the air. The proportion of its component parts may be easily known by the application of vinegar, or the diluted acid of sea-salt. This kind of earth differs in colour as the quantity of clay, sand, or calcareous earth, happens to predominate. It is somewhat singular, that the strata or veins of this body are, for the most part, discovered at or near the summit of the high grounds, from two to four, or five feet below the surface. The stratum, immediately above this body, is of a bright coloured brownish clay, not effervescing with acids, and containing little or none of the calcareous earth; the acid having no action upon pure clay. The stratum below this body, is most generally of a strong saponaceous blue clay, partaking nothing of the marly nature—the pits are from two to fourteen feet deep. The shallow veins seem to be so many ramifications of marl, shooting from a body of some magnitude of the same nature, and not far distant. The shallow strata, it is said, run a great way be-

H

fore

fore they connect themselves with the main body. Many curious petrefactions of shells and fossils, have, from time to time, been found in these pits at the depth of seven or eight feet from the surface.

By the following account may be seen the quantities of marl generally used in manuring an acre of corn land, as also the expences.

LAND IN TILLAGE.

To the acre 80 loads.

Four men filling carts at the rate of 40 loads a day,
at 4s. a score, and spreading ditto.

One man and four horses a day.

So that the expences of manuring one acre will amount to £2. 12s. or thereabouts, provided the marl be upon the spot, but will vary according to the distance of the cartage. The effect of this manure upon new-inclosed grounds is very great. A piece of land, of about eight acres, in the possession of Mr. James, upon being drained and marled, produced the following quantities in succession *per* acre.

1st. Crop. Oats on a good tilth, laid down		
with clover	- -	5 quarters.
2d. Crop. Clover, first cutting	-	2 loads and a half.
Second ditto	-	1 load.
3d. Crop. Wheat upon clover	-	32½ bushels Win-
		chester measure.
Straw	- -	3 loads.
4th. Crop. Wheat broad cast	-	20 bushels Win-
		chester measure.
Straw	- -	1 load and a half.

A seven-

A seven-acre field, after a crop of winter-ares, which were cut occasionally in the spring, was tilled, and laid up in ridges over the winter; in the following spring it was harrowed down, and eighty load an acre of marl carted upon it; this was cropped, in the usual season, with barley and clover, and a hand-dressing of night soil thinly sown upon the land at the time the seeds were harrowed in. It produced six quarters of barley an acre the first year, with a proportionable quantity of straw; it produced two loads of clover on the first crop of the second year, and an additional load on a second crop; the third year it produced twenty-five bushels of wheat, and two loads of straw.

SOUTH MIMS inclosure is also part of *Enfield Chase*, and consists of nearly 1000 acres. In its open state it was supposed not to have yielded the parish at large more than two shillings an acre *per annum*; but since its inclosure it is worth on an average fifteen shillings an acre.

It is at present in tillage; but in a few years it may be converted to grass, which will give it an increased value of at least five shillings an acre.

II. HAY-MAKING.

HAY-MAKING in Middlesex is carried on by a process peculiar to the county, and which, if the weather be favorable, has, by a long course of practice and experience, been attended with almost invariable success. To state this process clearly to the Board, I shall particularly describe the operations of each day, from the first employment of the scythe, until the hay is stacked in the yard, or field.

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On **THE FIRST DAY**, all the grafs mowed before nine o'clock in the morning is tedded, broke as much as possible, and well turned. This is performed before twelve o'clock, and, if hands are plenty, it will be of great advantage to turn it a second time. It is then raked into wind-rows; and afterwards made into small cocks.

The business of **THE SECOND DAY** is, to ted all the grafs which was mowed the preceding day, after nine o'clock, and to ted, and treat as above, all that was mowed on this day before nine o'clock. But before the grafs of this day's work is turned, the small cocks of the preceding day, should be well shaken out into straddles, or separate plats, of five or six yards square. If the crop is so thin as to leave the spaces between the plats, or straddles, pretty large, the spaces must be raked clean. The next business is to turn the plats or straddles, then to turn the grafs of the second day's mowing, as before directed. This should always be done, if there are hands sufficient, before one o'clock, that the people may, as the custom is, take one hour for dinner, whilst all the grafs mowed is drying. After dinner the straddles are raked into double wind-rows; the grafs into single wind-rows; and the hay cocked into middling sized-cocks, called bastard cocks: The grafs is then cocked as before on the preceding day.

On **THE THIRD DAY** the grafs mowed on the preceding day, and on the morning of this day, is to be managed as before directed. The grafs made the preceding day, and now in grafs-cocks, is to be managed in the same manner as on the first and second days. The hay now in bastard cocks, is spread again into straddles, and the whole is turned before the people go to dinner, that is, the hay, though last spread, is first turned, next that which was in grafs-cocks, and then the grafs. If the weather should have been sunny, and fine, the hay that was last night in bastard cocks, will on the afternoon of the third day be fit to be carried; but if the weather should have

been

been cool and cloudy, no part of it probably will be fit to carry; and, in that case, the first thing done after dinner is to rake the second day's hay into double wind-rows; the grafs into single wind-rows; to make the first day's hay into cocks with a fork, putting only one cock in a straddle; to rake the ground clean; and put the rakings on the top of each cock. The hay raked into double wind-rows is now put into bastard cocks; and the grafs which is in single wind-rows is made into cocks as before. Provided there be no rain, even though the weather should have been cloudy, the hay now in great cocks ought to be carried; the hay in bastard cocks put into great cocks; the grafs-cocks made into bastard cocks; and that tedded this morning into grafs-cocks.

In the course of hay-making the grafs cannot be too much protected from the night dews or rain by cocking. Care also should be taken to proportion the number of hay-makers to the mowers, so that there should be no more hay or grafs in hand at one time than can be managed according to the above direction.

The hay thus made becomes the object of **THE FOURTH DAY'S** consideration in order to get it into stacks. The hay-farmer pays great attention to have the stack well tucked and tatched, and I may venture to assert, that, from what I have seen in other counties, there are no hay-stacks, when finished, that are so well secured, and nicely formed, as those in Middlesex.

In the neighbourhood of Harrow, Hendon, and Finchley, there are many hay-barns capable of holding from 50 to 100 loads of hay. They are found very convenient in a catching time in hay-making, and also at other times, when the weather will not admit the hay to be cut and trussed out of doors.

12. PRICE

12. PRICE OF HAY AND STRAW.

MEADOW hay is sold in the county of Middlesex by the load of thirty-six trusses, the trusses to weigh 60 lb. weight from June to August, and 56 lb. weight from August to June.

The meadow hay of this county is generally sold at the different markets in London and Westminster; and a regular book is kept by the clerk of each market, for the inspection of the public, mentioning the names of the sellers and buyers, and the price of each load, which differs in proportion to the quality.

This kind of hay is principally bought for feeding of saddle and coach horses.

Rye, grass, and clover, must also be of the same weight, and the load contain the same number of trusses. This species of hay is generally bought for draft-horses.

Clover hay must also be of the same weight and number. It is in general bought for the brewers and carmen's horses; not only for the rack, but for cutting into chaff; and the first in quality of this kind of hay generally yields a greater price than the best meadow hay.

The price of the different sorts of hay, as above described, for these last six months, appears to have been from £3. 10s. to £5. 5s. *per* load, 18 cwt. to the load.

The straw from different kinds of grain brought to the London markets is sold by the load, which consists of thirty-six trusses, at 36 lb. a truss. The wheat straw is, in general, used for litter in the stables; rye straw is used by brickmakers, collar-makers, and for packing; barley straw for packing and gardeners; and oat straw also for packing.

There is the same regulation at the different markets with respect to straw as there is in respect to hay; and the prices of each sort for some time past has been from 27s. to 30s. a load.

13. HORSES.

Few horses of any excellency are bred in the county of Middlesex. The farmers in general supply themselves with their cart-horses, which are compact and boney, at the different fairs in the neighbouring counties, and at the repositories and stables of the several dealers in and around the metropolis. Many of the horses used in the business of husbandry in this county, as well as those used by the brewers and carmen in London, are bred in Leicestershire and the adjoining counties. They are generally bought by dealers at two and three years old, and sold by them to the farmers, particularly in Wiltshire, Hampshire, and Berkshire, who work them gently the first year, and keep them on until they are about five years old, when they sell them to the London dealers (who are always looking out for horses for the brewers and carmen) at very high prices, being then of an age fit to stand their constant work. The draught-horses in general, in the possession of the brewers and carmen, are, as to strength and figure, scarcely to be equalled. The brewer's and carmen's horses are fed with grains, clover, chaff, and beans; racked with rye-grass, and clover, and broad clover hay of the best quality; and in summer it is not uncommon to feed them with green tares and clover. Many of the saddle and coach horses are bred in Yorkshire, and brought up from thence and from other counties by the dealers. These horses are fed with meadow hay only.

14. SHEEP

14. SHEEP.

THE county of Middlesex is not famous for the breed of sheep. Hounslow Heath, and its adjoining pastures, are the only places where flocks of sheep are kept, and this seems more for the sake of folding their lands than from the hope of sending a superior kind of mutton to market.

The farmers buy them at the fairs at Burford, Wiltton, Weyhill, and other fairs in Wiltshire and Hampshire. The flocks differ in their individual numbers in proportion to the right of common which the respective proprietors possess.

The sheep in the parish of Harmondsworth amount, I believe, to nearly 2000, and from the best accounts I could collect about 6000 are fed on Hounslow Heath. The sheep are generally sold off between fair and fair; some few however are fattened. The hay farmers also, particularly in the neighbourhood of Hendon and Barnet, devote their after-grass to the agistment of sheep and other cattle, which they take in at so much a score or head.

The experiments with Spanish sheep which have taken place in Middlesex merit a particular detail in this report.

In the summer of 1785 Sir Joseph Banks procured from France a ram and an ewe of the true *Merino* breed, which he kept at Spring Grove in this county. The flock whence they were selected had at that time been kept in the province of Burgundy for eight years, without any ram from Spain being brought to it.

In the year 1787, after having clipped this ram and ewe twice, Sir Joseph delivered the four fleeces to Mr. Humphries, an intelligent manufacturer at Chippenham, who
made

made from them cloth sufficient for a suit of cloaths; and this cloth was judged by the trade to be as good as superfine broad cloth usually is. In the year 1789 a comparison was made by Mr. Bell, a woolstapler in Bermondsey-street, between sixteen South Down ewe fleeces, and an equal number of teg fleeces, their progeny; and he reported that the sixteen Southdown ewe fleeces weighed 30½ lbs. and when sorted were worth to the manufacturer £2. 5s. 4½d. and that the sixteen teg fleeces weighed 42½ lb. and were worth to the manufacturer, £3. 11s.

Mr. Bell, however, according to the custom of his trade, broke or stapled this wool which is not to make any assortment for a higher value than twenty-one pence half-penny a pound; but he observed, in breaking the half Spanish fleeces, that a considerable quantity of wool of higher value was put into that assortment. In the year 1790 sixteen fleeces of South Down sheep, mixed partly half, and partly three-quarters, with Spanish, were put into Mr. Bell's hands, and he was desired to sort them, as is done in Herefordshire, where the dearest class of wool, called "picklock," is estimated at thirty-two pence a pound, which he did, and reported as follows: "sixteen South Down and Spanish fleeces weighed 47 lb. were worth to the manufacturer, £4. 12s. 10d."

In the year 1792 a similar comparison was made by Messrs. Buxton, the present possessors of the woolstapling business in Bermondsey-street, late Bell, between twenty fleeces of Nottinghamshire Forest ewes, and the same number of their progeny, by a Spanish ram belonging to Sir Joseph Banks.

They reported that the wool of the twenty original ewes weighed 51 lb. and were worth to the manufacturer, £3. 10s. 10½d. that the wool of the 20½ bred Spanish weighed 83 lb. and was worth to the manufacturer, £6. 7s. 11½d.

In the autumn of the year 1793, Sir Joseph, having made a variety of experiments, all of which tended to prove that Spanish wool had not degenerated in fireness, even on his pasture at Spring grove, though particularly unfit for sheep, determined to part with his wool, which had been kept for the purpose of comparison from the year 1788; and accordingly he sent the whole collection to Mess. Buxton, not expecting to hear any more concerning it, except by receiving a fair price, which he was certain, from the liberality he had observed in the dealings of those gentlemen, would, in due time, be remitted to him: he was, however, agreeably surprized, on the 11th of January, 1794, by the receipt of a note, of which the following is a copy.

“ Messrs Buxton present their respectful compliments to Sir Joseph Banks, and beg his acceptance of a piece of cloth, produced from three grey Spanish fleeces, weighing together 8lb. and received by them from Sir Joseph Banks.

“ Messrs Buxton are informed from Mr. Wansey (the gentleman from whom they received the cloth in its manufactured state) that it is an excellent piece of cloth; but being made wholly of undyed wool, of its natural colour, the manufacturer is of opinion it will fade in the wear.

“ Bermondsey-street,

“ Jan. 11, 1794.”

The cloth appearing to Sir Joseph very fine, he, on the 14th of January, forwarded it to Mr. Wallace, woollen draper, in Bedford-street, a gentleman, whose integrity of dealing he had long been accustomed to, with the following note.

“ January 14, 1794

“ Sir Joseph Banks presents his compliments to Mr. Wallace, and requests his opinion of the cloth which accompanies

"companies this respecting its value *per* yard, and its degree of fineness compared with superfine broad."

To this Mr. Wallace returned, on the 18th, the following answer :

" Bedford-street, January 18, 1794.

" SIR,

" I have had the favor of your note, and have examined
" the cloth you sent for my inspection very minutely, and
" find it in every respect very excellent. The wool is remarkably good, though I have cloth, which, in my opinion, is made of rather finer wool, though that may admit of a doubt, as judging from the feel of the cloth depends much upon the dressing, and cannot be so correct as from the wool itself. The spinning is very fine, and upon the whole, it may, I think, be ranked with the best superfine cloth manufactured in England. If I except a few pieces made at a very high price, and merely out of curiosity, I find it stouter than our superfine cloth in general, and I am of opinion that such cloth from the manufacturer is well worth 19s. a yard, or more. I return the cloth by the bearer ; and have the honor to
" be,

" Your most obliged,

" And very faithful,

" Humble Servant,

" JOHN WALLACE."

The first grey lamb bred by Sir Joseph was dropped in the year 1789, and clipped in 1790, at which time the Spanish breed had been five years in England, and fourteen years out of Spain. This lamb, and one more, both males, were kept for castration, which is known to ameliorate the wool ; but Sir Joseph did not chuse to obstruct

his experiments, which were carrying on in several parts of the kingdom, by castrating white lambs of the pure Spanish blood.

The deduction from this experiment, that cloth may be made from the wool of sheep fourteen years after the original stock has been imported from Spain, as fine at least as that usually manufactured from imported Spanish wool, appears self-evident. For the arrangement of it we are indebted to the judicious discriminations of Mr. Wansey. By the colour of the fleeces all suspicion of Spanish imported wool being mixed in the cloth is done away, for no coloured Spanish wool is sent out of Spain, and moreover, the fleeces being only three in number, all idea of a small portion of very fine wool having been carefully selected from a much larger quantity of inferior quality is precluded.

15. HOUSE LAMBS.

THE method of breeding house-lambs in the county of Middlesex, is as follows.

The ewes are always, without exception, of the Dorsetshire breed, and the rams of the county of Middlesex.

The choice given by the breeders to the Middlesex rams in preference to those of any other county in the kingdom, is extraordinary; but the wisdom and utility of this preference is said to be proved by long experience. The forward or early lambing ewes, are sought for by the breeders of this county with great attention, and are generally purchased about Michaelmas at Weyhill fair, or other places in the West county. The stock is preserved by occasionally buying the grass-lamb ewes of the county of Surrey,

Surrey, after their lambs have been sent to market, in the month of April or beginning of May. The sheep, which begin to lamb about Michaelmas, lie in the open field until they have produced a flock of twenty or thirty lambs. These lambs are then put into a lamb-house, where they are kept with great care and attention until they are fit for the butcher. The natural mother of each lamb is turned every night into the lamb-house to her respective offspring. At six o'clock in the morning these mothers are separated from their lambs, and turned into the pastures; whence they are re-driven into the lamb-house about eleven or twelve o'clock at noon, and each lamb suckled by its mother. If a ewe give more milk than its lamb will suck, the superabundance is given to the twins, or to any other lamb whose mother may not be able to furnish it with sufficient food. The shepherd must, in this case, hold the stranger ewe for about one hour to the respective lamb it is destined to suckle. The lambs are put into a coop where there is a rack, which, to prevent them from gnawing the boards, or eating each others wool, is filled with clean wheat straw, and several large pieces of chalk. Clean straw is then thrown over for the lambs to lie on: and, from their timid and nervous nature, it is extremely essential that they should be kept free from every species of disturbance; for fear, which forms a prominent feature in the character of this animal, will suspend, and, if excited to a great degree, destroy the functions of its nature. When the breeder, as he occasionally does, sends a number of lambs to market, their mothers are let into the lamb-house immediately after the natural mothers of the remaining stock of lambs are turned out, and a certain number of lambs, according to the quantity of lambs and sucklers let out of the coop. The shepherd must hold each ewe, for, otherwise, she will not let the lamb suck; and, after giving

giving each lamb, by this means, as much milk as in the judgment of the shepherd is sufficient, he restores it to the coop, and continues to do the same with the rest until he has satisfied every lamb, or exhausted the ewes of their milk : Great care, however, should be taken not to defraud the twins of their shares of the milk. This mode of feeding is repeated every morning and afternoon.

The ewes, when the grass begins to fail, are fed in the fields with grains in troughs, and second-crop hay in racks. The sheep should be kept free from the foot rot and scab ; and if they have any pitch mark on them when they lamb, it must be cut off before the lambs are taken into the house, otherwise the lambs will eat it, and thereby greatly prejudice their future growth.

A lamb house, to suckle from 160 to 180 lambs at a time, should be seventy feet long, and eighteen feet broad, with three coops of different sizes at each end, so constructed as to divide the lambs according to their ages.

The sheep, when separated from the lambs, ought to be so disposed as to enable the lambs to find their mothers without trouble ; and for this purpose they make use of deal hurdles, placed about the middle of the sheephouse.

Punctuality of time in letting the ewes in to the lambs, and keeping the lamb-house very cleanly littered, are very necessary precautions.

16. CATTLE.

Oxen are not generally used for draught or for the plough in the county of Middlesex. The practice, however, seems to be prevailing ; for, in addition to those who are mentioned in the former survey, as promoting, by their example, this species

species of husbandry, I may mention the name of Mr. Jenkins, of Hanworth-park, who keeps two teams, or twelve oxen, of the Welch breed, short, boney, and strong. They are bought of the drovers at three years old, worked for a course of three years, and then either fatted for the butcher or sold to the grazier.

Five oxen are used to draw a waggon on the road, one in the shafts, and four in pairs, with collars and holsters, or headstalls.

At plough two pair are used; at dung-cart three oxen only are used. Some of them are shod standing; others are thrown for this purpose. Mr. Allan, of Philpot-bridge, keeps two pairs; Mr. Redford, of Feltham, two pairs; the Marquis of Abercorn, of Bentley-Priory, has a team of five, which go in a waggon singly, with collars and headstalls, and are shod without being thrown. Mr. Allan, of Philpot-bridge, fattens oxen, of the Worcestershire breed, with oil-cakes, &c. and generally gets them to so high a pitch of perfection as to sell them for £40. an ox.

The cows are kept in general for suckling calves, and for supplying the neighbourhood with milk. They are generally of a mixed breed, and are bought at Kingston, and other fairs in the neighbourhood. But the practice of suckling calves prevails mostly in the western part of the county.

Boiling potatoes in steam, for the use of cattle and horses, is now adopted, in many places, on a very large scale, and is found to answer the intended purpose. A correspondent of the Reverend Mr. Cooke, in Wiltshire, declares, that last winter he fattened sixty head of cattle, and a large quantity of hogs, at least fifty *per cent.* cheaper than usual, on steamed potatoes, with straw cut into chaff, small quantities of malt-dust, and linseed tea or jelly for the beasts, and bean-flower for the hogs; and that his horses, about

twenty in number, are now supported at hard labour by steamed potatoes and cut-chaff only, for half the expence of hay and corn.

Mr. Cooke has improved and simplified the process of cutting straw into chaff, and boiling potatoes in steam.

17. PRICE OF PROVISIONS.

BREAD, throughout the county of Middlesex, appears to be, in regard to price, the same as regulated by the city magistrates, in proportion to the price of wheat. In the vicinity of London, all kinds of butchers meat are equally as dear as in the London markets. In the more remote part of the county, and in the market towns of Uxbridge and Brentford, pork, poultry, eggs, and vegetables, as well as milk, are to be had something under the London-market prices; but beef, mutton, veal, and lamb, are seldom to be had at a cheaper rate; and, I much question, if the coarse pieces of beef, &c. are not sold cheaper to the poor in London, than in any part of the country.

18. R O A D S.

THE roads, both public and parochial, are in general good, considering the flatness of the surface of many of the parochial roads, which does not admit of the advantages of draining, which is one of the principal objects to be attended

attended to. To prevent roads from wearing, and to keep the middle of them as high as can be with safety to carriages, is the best method yet known to prevent the water lying on them, and of course to preserve them much longer in a sound state than when they are level.

19. COMMON MEADOWS,

NEAR THE RIVER LEA, SUBJECT TO LAMMAS
TENURE.

THERE is a large tract of excellent meadow land on the Middlesex side of the river Lea, belonging to the parishes of Enfield, Edmonton, Tottenham, &c. The canal is cut through these meadows, and falls into the River Lea, near Old Ford. This tract of meadows, containing about 1000 acres, is divided, as appears by the stakes, to the different proprietors, in allotments, from about *half* an acre, to *four or five* acres, but in general in *two and three* acres. They are laid up to be mowed every year on the 5th of April, and after the hay is cut, and taken off, are opened again for commonage on the 12th of August: and this is what is called "Lammas Tenure." Every inhabitant of the respective parishes claims and exercises a right of turning into these meadows what stock he pleases; there being no stint to this right of common. Every horse, cow, or heifer, thus turned in, is marked by the parish brand for one penny each; and if any are found thereon unmarked, they are taken to the pound, and are not released without pay-
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ing a fine of eighteen pence each, if they belong to a parishioner, and if otherwise the fine is three-shillings each.

These meadows are frequently flowed both in winter and in summer, not only by the River Lea, but by the canal; but it does not appear that any attention is paid, either by keeping the ditches, or the other drains to carry off these floods, open; by which neglect the water is suffered to remain, to the great injury of the meadows. The reason assigned for this neglect, I understand, is, that the property is in small pieces, intermixed, and subject to Lammas tenure, which prevents any general system from being pursued by one, as all must join in the expences for the improvement required.

These meadows now let for about 2*5*s. an acre on an average, and if inclosed, or thrown into severalty, it is supposed they would be worth at least 40*s*. an acre. At present, the hay cut off is reckoned to be about one ton an acre on an average.

20. COMMON MEADOWS,

NEAR THE RIVER THAMES.

FROM Fulham to Chiswick, and almost all along the margin of the River Thames, as far as Staines, are meadows, to a great extent, which are frequently flowed both by the tides and by the floods. These inundations produce great quantities of rush, and other coarse grasses, and render it extremely difficult to make the produce into hay; and, indeed, when this is accomplished in the best possible manner,

manner, it is but little worth. Most of these meadows have open ditches dug in the lowest part of them to take off the water which remains after the tides and floods have retired; but, the surface being in general nearly a dead level, the water drains very slowly off; and in the winter season the soil is so very tender that it will hardly bare the weight of stock upon it.

The greatest improvement that could be made upon the wet meadows, nearest to the Thames, would be to plant them with osiers, where the lands are not subject to Lammas tenure.

21. COMMON MEADOWS,

ON THE BANKS OF THE COLN.

EXTENSIVE and fertile meadows also adorn the banks of the River Coln, from Staines to Harefield.—Those at Harefield are known by the name of “The Moor,” and contain about 300 acres, which are watered by the River Coln. Parts of these meadows are mowed twice a year, and other parts grazed. A more strict attention is paid to the keeping of the drains and ditches in these meadows in proper order, than in any of those before mentioned, adjacent to the Rivers Lea and Thames.

22. COMMON FIELD LAND AREA

THE common fields in the county of Middlesex, are at present in a good course of husbandry, forming a proportion as to the number of acres, when compared with the cultivated inclosures in the county.

In many of the parishes it has been suggested, (as at present state the lands are intermixed in small parcels and subject to commonage) that if an inclosure should be made place under proper regulations, and every proper portion of land was thrown together, the proprietor of the land would not only benefit as to rent considerably, but the tenant would also be enabled to pursue his course of husbandry without interruption, and to apply it to its right use, by introducing the best system of agriculture.

23. WILLOWS.

FROM Fulham to Staines the banks of the Thames are profitably employed in the cultivation of willows; and I am happy in being able to furnish the Board with the following short, but satisfactory account, containing

specific names of those raised in the neighbourhood of Brentford, the uses to which they are applied, and the manner in which they are cultivated.

1st. THE *SALIX VITALLINA*, or *yellow willow*, is cultivated chiefly by the nurserymen ; and being of a tough, but yielding nature, is used for binding packages of trees and shrubs in the drawing season, and for tying up the branches of wall and espalier trees.

2dly. THE *SALIX AMYGDALINA*, or *almond-leaved willow*, is a species of which there are several varieties, one of which is called by the planters "the small red willow," or "binding rod," it being chiefly used for binding the produce of garden grounds. Another kind of this willow is at present known by the loose appellation of "the new kind;" it is of large growth, and produces a great crop, is used both by the basket-makers and the corn-sieve makers, and, indeed, is fit for any work which requires a firm as well as a tough rod.

3dly. THE *SALIX VIMINALIS*, or *osier willow*. Of this species there are also several varieties, which are called among the planters by the name of "the yellow and brown osiers," or "Coomb's osiers." They are chiefly used by the basket-makers, being very pleasant working rods; and, as they produce a great crop, are much cultivated.

These three descriptions comprehend the most useful varieties, and are the most profitable in point of crop, of any that are cultivated in this district. There is, however, a coarse sort of willow, known by the name of "the Spaniard;" but whether it is a distinct species or not I am unable to decide; it might be rendered extremely useful in counties where much brush or underwood is bound.

The mode employed in the cultivation of willows is as follows.

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The ground is, during the winter, dug a full spade's depth, and left rough, to prevent the tides from running it together again before it can be planted. The planting work begins in the month of March. The planter, having procured the setts or plants, which are fifteen or sixteen inches long, cut diagonally off the strongest shoots of the last year's growth, and care being taken that they are not cut near to the top of the rods, that part being too porous to make a sound plant, the ground is then marked out into rows two feet asunder, and the setts are struck in the rows eighteen inches from each other, leaving about seven inches of the sett above the ground. This work is very easily done without using even a dibble or setting-stick; but when planted, care must be taken, by hoeing, to keep them as free from weeds as possible; or, if the ground be too wet for the hoe, a weeding hook may be used to keep them down: this is absolutely necessary to ensure a good plantation. It is also equally necessary to keep the ground well drained, to prevent the tide's remaining upon it any considerable time, for on that also depends the firmness and good quality of the rods.

The willows are cut the first year with a bill-hook. The shoots are cut off close to the stock, and bound up in bundles, or boulds as they are called, which measure forty-two inches round, at sixteen inches above the butt-ends. The same process of weeding must be pursued every summer, while they are shooting up from the stem. The next cutting season a portion of them is left to stand another year, where large stuff is wanted, for the ribs of large baskets, &c.

The planting of willows is expensive the first year; but, if well managed, they produce a great profit, as they improve in quantity every year. The profound secrecy which every willow-planter observes with respect to his individual

individual profits, renders it impossible to ascertain to what amount this article is cultivated ; but greatly profitable as it certainly is, there are still many parts on the banks of the Thames, well suited to the propagation of this useful plant.

24. IMPLEMENTS OF HUSBANDRY.

THE common wooden swing-plough is in the most general use in the county of Middlesex. The Hertfordshire wheel-plough is also used by some farmers for summer fallowing.

Harrows of various weights a pair, from the draught of one to four horses, with rollers of wood and iron of equal capacity, are made use of.

There are but few waggons used ; and the carts mostly in use are the six-inch wheeled shooting-carts, with iron arms of various sizes for their axis. These carts, with the addition of movable head and tail ladders, carry hay, corn, &c. and, when thus enlarged, are found more convenient in the farming business than waggons, they being less expensive, and standing in less space when out of use.

The Rev. Mr. James Cooke, of Red Lion-square, London, has greatly simplified and improved his patent drill-machine, as well as its attendant cultivator, &c.

In my correspondence with this gentleman he furnished me with the following account of these implements.

“ In my several excursions some years past for the purpose of introducing the drill-system, which is now sufficiently

“sufficiently understood by practical farmers to insure its suc-
 “cess, I found in this island about twenty ploughs of different
 “constructions. It occurred to me they could not all be
 “equally right, or that, if one out of the twenty was right,
 “the remaining nineteen must be wrong. Thereupon,
 “the true principle of the *common plough* became an ob-
 “ject of investigation, in which I was for some time mis-
 “lead, by endeavouring to class it, as others had done
 “before me, with the mechanical power called *the wedge*.
 “I was not long in discovering my error, and that it was
 “not *the wedge*, but the mechanical power called *the in-*
 “*clined plane*, that constituted the true principle of the
 “common plough.

“From the imperfections which I observed in the work
 “of common ploughs, some furrows being set too much
 “on the edge, others laid quite flat (both extremes equally
 “wrong) I concluded that their medium could not be far
 “from being right; I therefore fixed on the angle of five
 “and forty degrees for the form of the fore and hind parts
 “of the plough, with a mould board uniformly twisted,
 “as best adapted for taking up or raising the furrow with
 “the greatest ease, and delivering it with the greatest regu-
 “larity. On this principle I had a plough constructed;
 “which, on trial, answered the intended purpose and my
 “expectations.

“Being satisfied with the principles of this plough, and
 “that the exact form might be preserved, I had it cast in
 “iron, with the land and furrow sides growing together,
 “which renders it not only strong and durable, but un-
 “alterable by workmen. It is made without wheels; but
 “I prefer wheels, two before and one behind, a deal of
 “friction being thereby obviated, and consequently less
 “draught required.

“The

"The strongest proof of accuracy in the construction of
 "any plough, consists in every part of the mould-board
 "bearing an equal resistance to the approaching furrow,
 "which is ascertained by every part of the mould-board
 "receiving an equal polish from the friction of the furrow.

"Admitting this plough to be mechanically true, which
 "I trust I am able to demonstrate, and that it performs its
 "work better, and requires less draught than any other plough
 "I have hitherto met with, my hopes of living to see it in
 "general use are, nevertheless, not very sanguine, owing
 "to the attachment of ploughmen in general to the ploughs
 "of their respective counties, and the true principle of
 "ploughs not being sufficiently understood by their em-
 "ployers. I shall, nevertheless, persevere in the use and
 "introduction of this plough, believing it to be the best,
 "until I can find a better.

"THE CULTIVATOR" may be considered as an appendage
 "to the drill, being applied to the drill axis when at work.
 "It is particularly useful in making clean fallows of all de-
 "scriptions at half the expence of ploughing, &c. It consists
 "of a diagonal beam, with from three to seven shares of dif-
 "ferent sizes, for various uses, applied to two handles, by
 "which it is guided laterally, and may also be forced into
 "the ground to any given depth at pleasure. It is used
 "as a substitute for ploughing and harrowing, by tearing
 "or lacerating the soil internally, without tearing a furrow.
 "The narrow shares or scarifiers, are, in some cases, used
 "for obtaining a tilth in light soils without ploughing at
 "all, and the broad shears for cutting up a fleece of weeds,
 "and afterwards leaving them to perish on the surface of
 "the land.

"In strong compact soils, if land is ploughed once
 "before winter, or early in the spring, the remainder of
 "the business in making a clean fallow may be performed

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"without

“ without repeated ploughings, better than with them,
 “ and at half the expence. By the action of **THE PLOUGH**
 “ some weeds are turned down and buried, others are
 “ transplanted: by the action of **THE CULTIVATOR**, they are
 “ all brought up to the surface, and left there exposed. I
 “ cannot here sufficiently describe the utility of this imple-
 “ ment, particularly in obtaining an expeditious tilth,
 “ for barley and oats after turnips, without ploughing.

“ In preparing land for barley, &c. after turnips, I can-
 “ not consider the plough and harrow of any other use but
 “ to obtain a proper tilth, or pulverization of the soil, all
 “ which may be obtained by a proper and seasonable use
 “ of **THE CULTIVATOR**, in half the time, and at half the
 “ expence, with the richest and clearest portion of the soil
 “ left on the surface for the reception of the seed; instead,
 “ as in the first instance, of its being turned down by the
 “ plough, out of the reach of the fibres of plants, and a raw
 “ or less fertile soil brought up for the reception of the seed.

“ I never see common harrows at work but I am pre-
 “ sented with ideas of awkwardness, respecting the process
 “ and danger both to men and horses; both which are
 “ obviated in my practice, by applying a proper harrow to
 “ the underside of the coulter beam of the drill. The har-
 “ row, in that case, supplies the place of the coulters,
 “ and may be lifted up at pleasure to discharge the accu-
 “ mulated weeds, or forced down, so as to overcome the
 “ resistance of complete soils: and by being lifted up at
 “ the ends of lands, it clears off the ground; and all danger,
 “ while the horses are turning round, is thereby done away.”

The practice, recommended so strongly by Mr. Cooke,
 is adopted in this county by Mr. Ruberry, of Sutton
 Court Farm, Chiswick: By Mr. Winter of Acton: and
 Mr. Thorn of Ealing. The first of these gentlemen
 has experienced great advantages from it, and is fan-
 guine

guine in his expectation, that, if pursued with spirit, it will prove highly beneficial to the arable culture of the lands throughout the kingdom.

25. FARM HOUSES AND OFFICES.

THE farm houses, and the offices thereto belonging, are, in general, throughout the county, well constructed, and in good repair. Many of them are perfect models of their kind, particularly Sutton-Court Farm, in the parish of Chiswick, now in the possession of Mr. Thomas Ruberry. The farm-yards are built with a view to protect the cattle from inclemency of weather; and are advantageously formed for making and preserving manure. In the arable part of the county many of them are at a great distance from the lands, particularly where the farm chiefly consists of common fields.

In those parts of the county which have been newly, or may hereafter be, inclosed, it would perhaps be good policy to erect the farm-houses, and necessary out-buildings, on the most barren and penurious parts of the land, as they would in such case be more likely to become an object of improvement. Where the farms are large, an out-barn, on some central part of the premises, will be greatly conducive also to this end.

Many of the farm-houses, and most of the out-buildings in this county, are thatched; but it appears, in some places, that sufficient attention is not paid to the straw being very cleanly threshed, which in thatching is a very material circumstance, as otherwise the corn will sprout after the straw is laid on the roof, and soon let in the rain.

26. COW - KEEPER

THE number of cows, kept by the London cow-keepers in the county of Middlesex, amounts to nearly 7,000. In the counties of Kent and Surrey to 1,300. I have taken great pains to ascertain these numbers with as much precision as the nature of the subject is capable of; having collected my information from the following sources. I have great confidence in the account being accurate.

MIDDLESEX.

Tothil-Fields	-	-	-	205
Knightsbridge	-	-	-	
Edgware-Road	-	-	-	550
Paddington	-	-	-	
Tottenham-Court Road	-	-	-	
Battle-Bridge	-	-	-	3,950
Gray's-Inn-Lane	-	-	-	
Bagnigge-Wells	-	-	-	
Islington	-	-	-	
Hoxton	-	-	-	150
Ratcliff	-	-	-	205
Mile End	-	-	-	406
Limehouse	-	-	-	180
Poplar	-	-	-	70
Bethnal-Green	-	-	-	200
Hackney	-	-	-	600

[8:]

Bromley	-	-	-	160
Bow	-	-	-	100
Shoreditch	-	-	-	200
Kingland	-	-	-	
Odd Cows	-	-	-	224
				<hr/>
				7,200
				<hr/>

K E N T.

Deptford	-	-	-	681
Rotherhithe	-	-	-	
Greenland Dock	-	-	-	
New Cross	-	-	-	
Bermondsey	-	-	-	

S U R R E Y.

Lambeth	-	-	-	619
South Lambeth	-	-	-	
Kennington Bridge	-	-	-	
Cold Harbour	-	-	-	
Peckham	-	-	-	
Peckham Rye	-	-	-	
Newington	-	-	-	
Camberwell	-	-	-	
				<hr/>
				1,300
				<hr/>

The cows kept for the purpose of furnishing the metropolis with milk, are, in general, bred in Yorkshire, Lancashire, and Staffordshire. The London dealers buy them of the country breeders when they are three years old, and in calf. The prices given for them are from eight guineas to fourteen pounds a cow. The different fairs and markets, which are held at Barnet, Islington, and other places around the metropolis, furnish the London Cow-keepers with the means of keeping up their several stocks. Many cows likewise are bought in Yorkshire in small lots, from ten to twenty, by private commission, and forwarded to the cow-keepers in and about London.

During the night the cows are confined in pens or stalls. About three o'clock in the morning each cow has a half-bushel basket of grains. From four o'clock to half past six, they are milked by the milk-dealers, who contract with the cow-keepers for the milk of a certain number of cows, at the price of fourteen or fifteen pence for eight quarts. When the milking is finished, a bushel-basket of turnips is given to each cow; and very soon afterwards they have an allotment, in the proportion of one truss to ten cows, of the softest meadow-hay of the first cut that can be procured. These several feedings are generally made before eight o'clock in the morning, at which time the cows are released from their stalls, and turned out into the cow-yard. About twelve o'clock, they are again confined to their different stalls, and served with the same quantity of grains as they had in the morning. About half past one o'clock in the afternoon the milking commences in the manner as before described, and continues till near three, when the cows are again served with the same quantity of turnips, and, about an hour afterwards, with the same distribution of hay as before described.

This

100

just think as follows :

5 quarts a day from October to May, 212 days,
1908, quarts, fed on turnips, grains, hay,
or rowing. The milk is sold to the retailers
at 1½d. a quart - -

•

—

100

		£. s. d.
10 quarts a day from May to September, 123		
days, 1,230 quarts, fed on grafs, and occa-		
sionally on grains. The milk sold to the		
retailers at 1½d. a quart	-	8 19 4½
8 quarts a day, 50 days, 240 quarts, fed on		
grains and hay. The milk sold to the re-		
tailers at 1½d. a quart	-	1 15 0
<hr/>		<hr/>
365 days	total 3,378 quarts	£ 24 12 7½
	each cow <i>per ann.</i>	<hr/>

8,500 cows at £ 24. 12s. 7½d. each
 cow *per ann.* or 28,713,000 quarts
 at 1½d. a quart, comes to - £ 209,365 12 6

The consumers pay 3d. a quart to the retailers, which, on 28,713,000 quarts, amounts to the sum of £ 358,912. 10s. and makes a difference of £ 149,546. 17s. 6d. a year, in favour of the retailers.

It may, however, be necessary to observe, that from the information of a very respectable person, formerly a cow-keeper, who always attended the feeding and keeping of his own stock, and the measurement of the milk to the dealers, that eight quarts of milk a day a cow, taken upon an average the year round, and on the stock of the whole of the cow-keepers, is rated quite high enough.

The account, therefore, of eight quarts of milk a day, will stand thus, supposing the milk of every cow to be sold to the milk-men, which is not the case :

Each

	£.	s.	d.
Each cow, on an average, eight quarts a day,			
for 365 days, 2,920 quarts, at 1½d. a quart,			
comes to	21	5	10

8,500 cows, at £ 21. 5 s. 10 d. *per ann.* each cow, or 24,820,000 quarts, at 1½d. a quart, comes to £180,979. 3s. 4d. *per ann.*

The consumers, however, as before observed, pay 3d. a quart to the retailers, which, on 24,820,000 quarts, amounts to the sum of £ 310,250. and makes a difference of £129,270. 16s. 8d. in favour of the retailers.

But, when the families leave London, the cow-keepers do not find a ready sale for all their milk; and in this case they generally set the unsold milk for cream, of which they make fresh-butter for the London markets, and give their butter-milk to the hogs.

The ground-work of cow-yards ought to be made of lime rubbish, &c. as it makes a sound bottom; prevents the cows from poaching the yard too deep; and is easily scraped and kept clean.

THE FACTS and observations above stated have been collected personally by myself, from those whose engagements in, or connection with the business of cow-keeping enables them to judge with accuracy and discrimination on this subject; but I cannot omit this opportunity of referring to that useful work, entitled, "*Annals of Agriculture*," N° 120, where much information respecting the keeping of cows, and the consumption of milk, both around the metropolis, and in other parts of the kingdom, is communicated to the publick by its ingenious author *Arthur Young, Esq.*

MISCELLANEOUS OBSERVATIONS.

WHEN any of the commons about London are first enclosed, it will perhaps be found a difficult matter to procure plenty of manure. The effect of manure on gravelly soils lasts but a short time, when compared to the duration of its effects on clayey, or other strong soils; but by giving gravel soils frequent dressings, and in small quantities, it enables the farmer to cover more lands, and to get it into a proper course of husbandry sooner than he otherwise would have been able to do.

Commons are certainly best enclosed, as they afford no real benefit to the poor, who live on, or near them; for, although a cow turned on the common may get her own living for three months, which is as much as she will be able to do, without some assistance from the garden, bran, &c. the cottager, not having a bit of enclosed ground to grow hay, is sure, if he can have it at all, to pay very dear for it to the neighbouring farmers; and such cows, being obliged to be on foot all the day, and perhaps at night too, give but a very scanty meal when milked.

If new inclosed land is let on lease, the farmer ought to covenant to take good care of his fences, quickwood, &c. and sometimes it is the best way for the landlord to take the charges of the posts, rails, quick-wood, &c. for the first seven years (by which means the fences will be got up) and also not to allow any sheep to be kept on the grounds for

that

that time. If, however, they are put on to eat off the turnips, the hedge ought to be secured by a net. This is neither much trouble nor expence.

When inclosures are made, no plantations ought to be placed near the roads, as they keep them wet and damp, by preventing the sun and wind from having their due effects; and, near London, plantations close, or at only a small distance from the roads, afford a harbour for highwaymen and footpads untill they have a proper opportunity to rush out on their prey. This danger was formerly guarded against by the statute of 13 Edward I. commonly called the *Statute of Winchester*, but it is repealed, and other provisions enacted upon this subject by 13 George III. c. 78.

Roads in new-inclosures should be made as soon as convenient, that the farmer may be able to get his manure, &c. to his land, with the greater ease to himself and his horses.

Perhaps there will be no better fencing found for the commons in the county of Middlesex, when inclosed, than oak posts, and fir rails, the rails not to be more than nine or ten feet long, perhaps nine is the best length: for posts of oak will last till the quick-hedge is up. Quicks ought to be had from the nursery-men; those are best that have been transplanted twice. Where the land is thin and poor, it is a good way to set them (where it can be done) on the surface of the old turf, and then to cover the root with a sod; the grass side to the root of the quick: three sets to a foot are plenty. If quick-sets are bought, beware they are not those drawn up by the roots, on the commons, i. e. wild-quicks, for they canker and never grow well. It is a custom with the people who live near, and on the commons, where there is an enclosure, to col-

left the wild-quick, cut the top off within only two or three inches of the stem, and sell the roots: they sell them at a lower price than the nursery-men, but they never make a good fence.

Of the 3000 acres which remain to be enclosed of Enfield chace, it would be a good method, where it can be done, to set off the new-inclosed land, to those who have old inclosures near to it, as they can best nurse and attend to the various wants of the new land, during its infancy—and by not having more than 100 acres of new inclosure, may attend to it as it ought to be.

No land ought to be mowed more than once in a season, for many reasons, which need not be pointed out to those who are conversant in husbandry; and all land ought to be pastured once in three years. Farmers near London, who have fat cattle to send to market, have great advantages; they can, if cattle are wanted, send them to Smithfield at a short notice; and if at any time they are not sold, they can return to their pasture and not be much the worse for the journey. The distance being so small, they may frequently sell them to the London butchers on their own farms, and by so doing save both time and expence.

The meadow-lands near London are not only more manured, but earlier freed in the spring, and are of course fit to be mowed sooner. This gives the hay-farmers about London, in general, the best part of the season, if the season be fine; and of course they get their hay well; but if wet they do not use the same endeavour to preserve it from damage as they do in the more northern parts of England. Hay, after having been cut only three or four days, and exposed during that time to a hot sun, crisps without being sufficiently dried to the sap, and when stacked into large stacks, commonly heats, becomes mow-burnt, and frequently takes
fire.

See. Various are the methods used to prevent it; but I fancy none better than to put the new hay into pikes of a good large load each, and to let them stand for a week before they are stacked. If the pikes are well made, they will turn any quantity of rain that may fall: objections may be made by some to letting the hay stand in pike, but it is a very safe method, and much used in some parts.

The reason why artificial grasses are not found in greater plenty in old meadows, is, that, if they are at the first sown, the common hay grass and white clover never fail in a few years to occupy their places; is not this a proof that they are the grasses best calculated for common use? Artificial grass, as the common red clover, &c. lasts for three years only. Trefoil is a most excellent grass for sheep; they eat it well green, and are very fond of the hay; but, with respect to grasses, as well natural as artificial, they all have their favourite soils.

Manures about London are many and various, much increased in price of late years, but will of course be more so. Soon after the inclosing of the commons around London takes place, the new inclosure will most probably be able to provide its own manure in a great measure, and will, without doubt, pay the proprietors well for those parts that will admit of the cultivation of turnips, barley, and clover, especially if the turnips be eaten on the ground by sheep.

The large cows kept by the cow-keepers near London, and known by the name of Holdernefs cattle, do not all come thence; the best, and those which have been sold for the most money, are bred in the county of Durham, and that part of Yorkshire which is near the rivers Swale and Tees, in the North Riding. This large breed of cattle were most probably first brought from Normandy,
where

where they are the common cattle of the country. The late Sir William St. Quintin took great pains to cultivate this breed: he had bulls brought from Normandy to his estate at Lowthorpe, and thereby much improved the breed of short-horned cattle, as he not only gave the use of them up to his own tenants, but to the publick in general. They give a large quantity of milk, but not butter in proportion. Some of the long-horned breed of cows are most excellent for the use of the dairy, and breed better calves for the butchers. The calves from the large cows do not so soon get fat, as they grow too fast, are coarser in the grain of their flesh, and not so white. To make them better, the cow-keepers have their cows served by a bull of the long-horned breed. Those that get their calves white and bright in the fat and skin are very valuable.

APPENDIX.

Directions to raise the Substitute for Madder from the Seed, and to manufacture it for Market.

THE substitute for madder is an indigenous plant, or native of Great Britain, and affects a light, deep, and dry land. The root is the most marketable part of the plant, and runs deep into the ground, sometimes even to six feet, if not prevented by want of proper earth, or some other very material cause: so circumstanced, the tap or main root commonly divides into a great number of smaller ones, many of which being lost in manufacturing the article for market makes a short crop: in general, however, one acre of suitable and ordinary good land, being deep and well-ploughed, may produce from three to four tons; and one ounce of the seed sown on beds, to be covered with glass-frames in times of frost, will produce plants sufficient to plant out that acre.

The seed may be sown in April, and will come up in ten days, or a fortnight's time, and, in two months after, is fit to be planted out: which, for the convenience of hoeing, a labour that must be duly attended to for the first and second year, and to prevent the lateral roots from interfering one with another, should be done at the distance of eighteen or twenty inches square.

In about four years from the above period, the roots will, without any further trouble than occasionally hoeing, be arrived at their proper point of maturity, at least to that degree of perfection the suitability of the land to the plant can admit of, and therefore should be taken up; but in no greater quantity, at any one time, than may be with ease cleaned of the earth, and, in particular, of a dirty black skin, or bark, which hangs loosely about them, being highly pernicious to the beauty and elegance of their colouring particles, and that may be effectually done by softly rinsing them in pure, and, should convenience serve, running water. This being effected, and wiped thoroughly dry, they are immediately put into a stove, previously brought to that degree of heat which stops fermentation without injuring or any way scorching the remaining fine bark. When thus perfectly cured, they are, without loss of time, brought to the mill, in order to prevent their imbibing moisture of the air, which they greedily will, if permitted to do, and there put under a stone, or edge, to be grinded down, and immediately casked up. The casks, during the time of filling, are, from time to time, to be duly and regularly pressed by weights as heavy as the casks can bear.

The

The longer the article remains in the cask, the dyers may like nor will they purchase madder until two or three years, or even casked up, if they can be otherwise served: and, as the substitute has great affinity to madder, and its roots more solid by far than the article, it is to be presumed they must require an equal time "to be casked," as the dyers phrase it, that madder roots do.

The tops of the substitute, if cut down about the latter end of nearly in full bloom, will answer all the purposes of Weld, in dyeing cotton and linen, and is to be cured and brought to market in the same manner as Weld. It effectually curdles milk, and gives the cheese a but very agreeable flavour.

The scarlet of cochineal, and a specimen of the colour which it gives to woollen goods, together with that given by madder to accompany this. Comparison will shew, that the colour of the substitute comes so very near the scarlet of the cochineal, that it loses itself in comparison; whereas, the colour which madder gives is, by comparison, visibly sunk towards a brown.

Madder is sold at the average price of sixpence per pound; and cochineal at fifteen shillings per pound, or £1680. per-ton, or to thirty times the price of madder, yet a pound of madder dyes cloth a good deep colour; and a pound of cochineal dyes but of the same cloth equally deep; which demonstrates, that cochineal is rated with only eight times the quantity of dyeing or colouring particles as the madder; nor is its colour at all so fixed as that of madder; notwithstanding the madder, sufficient to dye that quantity of cloth, or sixteen pounds purchased for four shillings, when the cochineal, necessary to dye the same quantity of cloth, costs fifteen shillings. It is evident, then, upon comparison, that it is the scarlet of the cochineal which makes it so valuable at times of war, it occasionally sells from thirty to thirty-two shillings per pound, and not altogether its being so replete with dyeing particles. The colour of our substitute comes so very close to the scarlet of cochineal, at the same time infinitely more fixed, may it not be reasonable to suppose that our substitute will, in the course of a few years hence, lower the price of that high-priced dyeing ware, to the ease of the manufacturers and the most industrious and ingenious farmers?



1





GENERAL VIEW
OF THE
AGRICULTURE
OF THE COUNTY OF
KENT.

GENERAL VIEW
OF THE
AGRICULTURE
OF THE COUNTY OF
KENT,
WITH OBSERVATIONS ON THE MEANS OF ITS IMPROVEMENT.

BY JOHN BOYS,

OF BETSHANGER, FARMER,

Gr. Brit.

DRAWN UP FOR THE CONSIDERATION OF THE BOARD OF AGRICULTURE
AND INTERNAL IMPROVEMENT.

BRENTFORD,
PRINTED BY P. NORBURY.

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A D V E R T I S E M E N T.

The following valuable communication, respecting the present state of husbandry in the county of Kent, and the means of its improvement, drawn up for the consideration of the Board of Agriculture, is now printed, merely for the purpose of its being circulated in order that every person, interested in the welfare of the county, may have it in his power to examine it fully before it is published.

It is therefore requested, that any remark, or additional observation, which may occur to the reader, on the perusal of the foregoing sheets, may be *written on the margin*, and transmitted to the Board of Agriculture, at its office in London, by whom the same shall be carefully attended to ; and, when the returns are completed, a general view will be drawn up of the state of agriculture in Kent, from the information thus accumulated, which, it is believed, will be found to be superior, to any thing of the kind ever yet made public.

The Board has adopted the same plan, in regard to all the other counties in the united kingdom ; and, it is hardly necessary to add, that it is happy to give every assistance in its power, to any person who is desirous of improving his breed of cattle, sheep, &c. or of making any useful experiment in husbandry.

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P R E F A C E.

WHEN I undertook to draw up an account of the husbandry was not wholly ignorant of the importance of the business engaged, or of the difficulties that might arise in the progress of it. I never been employed all my life time in the cultivation of large fertile soils, I had some, I hope not unbecoming, confidence in my resources; and I had the honor to number among my friends and acquaintances many excellent Agriculturists, in different parts of the county; and I thought I might reasonably expect liberal assistance even from such as had been solicited by the Commissioners to

Under these impressions, I sought for information, and, when I applied, obtained it to the full extent of my expectation. The present is the result of my enquiries. Had my leisure been greater, or had I been allowed, the language might have been improved, and the work amended.

If the work has any merit, I claim only so much of it as respects the collecting the materials: all the rest belongs to Lord Viscount Leinster and Viscount Bayham; William Geary, Esq. of Oxenheath; William G. of Sandwich; Mr. Edmeads, of St. Clair; Mr. Edmeads, of Chichester; Mr. Cooper, Mr. John Curling, and Lieutenant Edward Boys, of Chichester; Mr. Granger and Mr. Head, of Shepey; Mr. Fearman, of Linsted; Mr. Charlton, of Maidstone; Mr. Thompson, of Seal; James Joynt, of Gravesend; Mr. Pilcher Ralf, of Romney; and Mr. Eel. Simplehurst.

BETSHANGER,
DECEMBER 22, 1793.

J. B.

^d I owe much to this gentleman's kindness in various ways; which I should be glad, but as

INTRODUCTION.

KENT.

THIS County forms the south east angle or corner of the Kingdom, and probably derives its name from that circumstance. Its figure is quadrilateral, and it is bounded on the north side by the river Thames, the county of Essex, and the German Ocean; on the south by the county of Sussex; on the east by the British Channel; and on the west by the county of Surry.

It is about sixty-three miles in length from Deptford to the point of the North Foreland, comprehending between these extremities about one degree and twenty-nine minutes of longitude; and measures on the east side, in a direct line from the North Foreland to Dungeness-Point, nearly forty miles, between the latitudes of $50^{\circ}, 54'$, and $51^{\circ}, 23', 20''$ north. It is divided into two grand districts, called West and East Kent; the former containing the laths of Sutton at Hone and Aylesford, with the lower division of the lath of Scray; the other comprizing the laths of St. Augustine and Shepway, with the upper division of Scray.

The county contains about thirteen hundred square miles, or eight hundred thirty two thousand acres, sixty-three hundreds, four hundred and thirteen parishes, two cities, thirty-nine market towns, nine thousand freeholds, forty thousand houses, and two hundred thousand inhabitants.

It sends eighteen members to parliament, pays nearly a twenty-fourth part of the land-tax, and provides nine hundred and sixty men for the national militia.

The socage tenure of gavel kind prevails in general over this county, to which there are certain special customs inherent, antiently called *Consuetudines Kentiæ*, being the common law of Kent.

Two chains of hills run through the middle of Kent, called the upper and lower hills; the northern range and whole north side of the county are composed principally of chalk and flints; the southern of iron and ragstone; more westerly, towards Surry, clay and gravel prevail upon the eminences.

Below this last range lies the Weald, an extensive level tract of land, rich and fertile at some places, where fine pasturage and timber are produced. The soil, a deep clay and marl, and so soft that the carriage and ploughing work is mostly done by unshod oxen.

The principal rivers of Kent are the Thames, the Medway, the Stour, and the Rother; the two former are navigable for the largest ships to Woolwich and Chatham, and for small craft to a very great distance. The Stour and the Rother admit coasting vessels to Sandwich and Rye. The Ravensborn, the Cray, and the Darent are small creeks or streams that fall into the Thames; the first at Deptford, the others in one channel at Longreach. Most of the marshland of this county lies along the margin, or at the mouths of these rivers, or has been formerly covered with the waters of ancient havens and ports, now in a great measure obliterated. These rivers likewise have formed islands towards their mouths. Thus the Thames and the Medway at their extremities contributed their waters jointly to the separation of the Isle of Grain from the main land, but the channel is now filled up. The Swale, one of the mouths of the Medway, in like manner cuts off Shepey from the continent of East Kent. Grain is throughout low and marshy, and is about three miles and a half long, and two and an half wide.

The north part of Shepey is high ground; but it is mostly low and marshy on the south side, where two streams running into the Swale form the islets of Elmley and Harty. Shepey is about thirteen miles long and six broad.

Thanet had a full claim to the title of an island when the Rutupine Port was in its prosperity; but its pretension to the appellation

appellation is now barely kept up by a small sewer communicating with the Stour and the Sea. The bed of that once famous harbour now forms valuable tracts of marshes, comprehending above twenty-five thousand acres. Thanct, including Stonar, contains nearly forty one square miles, or about twenty-seven thousand acres.

The Rother rises in Sussex, and empties itself into the Sea at Rye, forming the harbour of that port. It had formerly another outlet at Romney, the dry channel of which is still visible. From Rye it proceeds to Apledore, and then, by a curvature, forms the Isle of Oxney, which is about ten miles in circumference, and consists of a ridge of upland, running through its middle, and of low fertile marshes towards the river.

The Weald of Kent before-mentioned was formerly covered entirely with woods. It has now many small towns and villages, but is more thinly inhabited than the other parts of the county, and of course much less cultivated. Its principal productions are large fat oxen, hops, fruit, and oak timber.

Romney-Marsh is an extensive tract of rich marsh-land, at the south corner of the county, originally enclosed from the Sea by a strong wall thrown up between the towns of Romney and Hythe. Its chief productions are mutton and wool. Those of the county at large are horses, cattle, sheep, hogs, venison, poultry, game, rabbits, and fish; wheat, barley, oats, beans, peas, and tares; canary, clover, trefoil, cinquefoil, and most other garden seeds; asparagus, potatoes, turnips, and all kinds of culinary plants; hops, timber, underwood, iron, stone, chalk, copperas, salt, &c. &c. &c.

Its manufactures are but trifling, nor do they come within the limits of an agricultural survey.

Thus far is a general description of Kent; but the county is so extensive, and has so many different soils, systems of management, and productions, that it is necessary, in order to

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make

a proper survey of the whole, to divide it into the following districts, namely,

The Isle of Thanet,
 The Upland Farms of East Kent,
 The Flat Rich Lands in the vicinity of Faversham,
 Sandwich, and Deal,
 The Hop Grounds, &c. of Canterbury and
 Maidstone,
 The Isle of Shepey,
 The upland Farms of West-Kent,
 The Weald of Kent,
 And Romney-Marsh.

1 to examine each district under the following heads,
 y,

Soil,
 System,
 Productions,
 Implements,
 Price of Labour,
 What Improvements have been made,
 What Improvements may be made,
 Miscellaneous Observations.

ISLE OF THANET

Consisted formerly of ten Parishes, viz.

1. St. Giles, alias Sarre,
2. St. Nicholas at Wade,
3. Monkton,
4. Birchington,
5. Woodchurch,
6. Minster,
7. St. John the Baptist,
8. St. Peter the Apostle,
9. St. Laurence, and
10. Stonore.

1. The

1. The Vicarage of Sarre is now united to the neighbouring Vicarage of St. Nicholas, and the Church which was dedicated to St. Giles, is totally destroyed. The great tithes belong to the Church of Rochester. The Ville of Sarre is within the jurisdiction of the Cinque Ports, and maintains its poor separately from the parish of St. Nicholas, which is in the county at large.

The Manor belongs to Mr. Henry Collard.

2. St. Nicholas. The great tithes belong to the Archbishop. Thomas Gillow, Esq. Lessee.

Places of note in St. Nicholas.

Down-Barton, a Manor belonging to William and Eliab Briton, Esquires.

Shuart holds of the Manor of Down-Barton, by fealty and rent, and belongs to William and Eliab Briton, Esquires.

Bartletts holds of Down-Barton, as above, and belongs to William and Eliab Briton, Esquires.

3. Monkton Church, dedicated to St. Mary Magdalen, a Vicarage belonging to the Archbishop's patronage.

The Manor and the Great Tithes belong to the Dean and Chapter of Canterbury. The Lessee is Mr. Finch. The Vicar is endowed with all the Small Tithes of Monkton, and the two Chapels of Birchington and Wode, with the oblations, legacies, and obventions, and 12l. 1s. 8d. in money.

Places of note in Monkton.

Monkton-Court is a Manor belonging to the Dean and Chapter of Christ-Church. Sir Brook Bridges the Lessee. The Great Tithes belong to the Almonry-Farm, which is part of the estate of the Dean and Chapter. Clive-Court is a Farm belonging to Josiah Fuller Farrer, Esq.

4. Birchington is a Chapelry of Monkton.

Places of note here,

Quekes, a Seat and Farm, belongs to William Roberts, Esq.

Gore-End, a Farm, belongs to William and Eliab Briton, Esquires.

Brookesend belongs to the Dean and Chapter of Canterbury. John Friend the Lessee.

St. Nicholas-Court, a Tithing belonging to Queen's-College, Cambridge. It pays Small Tithes to the Vicar of Monkton.

A Parsonage in Birchington belongs to Mr. Bushel.

Westgate, a Manor Farm, belongs to Mr. Edward Taddy.

Birchington is within the jurisdiction of the Cinque Ports.

5. Woodchurch. (Church destroyed.)

Woodchurch, a Farm, belongs to T. Austin, Esq.

Cheesman's belongs to ditto.

6. Minster, a Vicarage, belonging to the Archbishop.

Places of note in Minster.

The Court-Lodge, the Mansion of the Manor of Minster. The estate is now in two parcels, Minster-Court with the Manor belongs to Lady Coningham, and Seven-Score to the heirs of ——— Wadsworth, Esq.

Sheriff's-Court belongs to Mrs. Terry.

Oldland-Grange belongs to the Dean and Chapter of Canterbury. Lessee Peter Fector, Esq.

Powcies belongs to Mr. Henry Harnet.

Thorne belongs to Mr. Henry Wotton, of Minster.

7. St. John the Baptist, or Margate, is a Vicarage, in the patronage of the Archbishop.

Places of note in this parish.

Dandelion belongs to William Roberts, Esq.

Nash-Court belongs to Jacob Sawkins, Attorney at Law.

Dane-Court, a Manor, belongs to Henry Hawley, Esq.

Salmeston, a Manor, belongs to the Archbishop of Canterbury; the present Lessee is the Earl of Guildford.

Updown belongs to Josiah Farrer, Esq.

Fleet, belongs to Mr. Samuel Righton and William Roberts, Esq.

Vincent belongs to Mr. Ambrose Collard of Minster.

Hengrove, a Manor, belongs to Henry Hawley, Esq.

Shottenden,

Shottenden, to ——— Forbes, Esq.

St. John's is in the jurisdiction of the Cinque Ports.

8. St. Peter's, a Vicarage in the Patronage of the Archbishop.

Places of note here.

Calais-Grange, the Parsonage Farm, belongs to the Dean and Chapter of Canterbury. Lessee the Corporation of Canterbury.

Dane-Court belongs to Mr. Robert Tomlin.

Brompston belongs to Henry Jessard, Esq. and Mr. John Grey.

9. St. Laurence, a Vicarage in the patronage of the Archbishop.

Places of note here.

Spratling-Street belongs to Mess. John and Thomas Weston.

Manston-Court belongs to Mess. Smith, Rammell, and Wotton.

Ellington belongs to John Garret, Esq. and others.

Upper Court a Manor, belongs to Thomas Garret, Esq.

Nether Court belongs to Thomas Garret, Esq.

Newlands belongs to the Archbishop of Canterbury.

Mrs. Bedford is the Lessee.

Ozengell Grange, belongs to the Dean and Chapter of Canterbury, Charles Dering, Esq. the Lessee.

Dumpton, a farm, belongs to the Earl of Hardwick.

Chilton, to Mr. Cooper and Mr. Curling.

Cliffsend to Bethlehem Hospital.

The Ville, or Town of Ramsgate, is within, and part of, the parish of St. Laurence, in respect to all ecclesiastical matters ; in every other respect maintaining its own poor, &c. &c. and within the jurisdiction of Sandwich.

10. Stonore, its Church destroyed, belongs wholly to the devisees of the late Charles Foreman, Esq. of London, Hop-Merchant.

The Manor of Monkton, Minster, and Down Barton, are paramount over the other manors in Thanet, Monkton, and
Down

Down Barton, extending over the western part, and Minster over the eastern part, being divided by St. Mildred's Lynch.

Much of the Isle of Thanet was naturally very thin light land, but the greater part of it having belonged to the religious, who were the wealthiest and most intelligent people, and the best farmers of the time, no pains or cost were spared to improve the soil. The Sea furnished an inexhaustible supply of manure, which was brought by the tides to all the borders of the upland, quite round the Island ; and most likely was liberally and judiciously applied by the Monks and their tenants ; and their successors to the present time, have not neglected to profit by their example.. Owing to these circumstances, Thanet always was, and most likely always will be, famous for its fertility ; and the Monkish tale of Thanet's deriving its superior fruitfulness from its having been the assylum of St Augustine, is not so far from the truth as it may at first appear. Old historians said, " Felix " tellus Tanet sua fecunditate ;" and modern writers on husbandry, speak of it as one of the finest gardens in the kingdom.

In short, is there another district in Great Britain, or in the World, of the same extent, in such a perfect state of cultivation ; where the Farmers are so wealthy and intelligent ; where land, naturally of so inferior a quality, is let for so much money, and produces such abundant crops ?

The whole Island contains about three thousand five hundred acres of excellent marsh-land, and twenty-three thousand acres of arable ; all the lower part of the latter bordering upon the Marshes, and some parts of the hill, where there is a good depth of earth, are exceedingly productive, and the principal part of the remainder, although naturally a poor thin light mould on a chalky bottom, is made exceedingly fertile by the excellence of the system under which it is cultivated. By an exact account taken of Minster, in Thanet, January 1, 1774, there were found to be in that parish, 149 houses, 696 inhabitants,

bitants, viz. 359 males and 337 females; of these in 16 farm-houses, were 110 males and 57 females, and in 133 houses, inhabited by tradesmen, labourers, and widows, there were 249 males and 280 females. The average number of inhabitants male and female, to each farm-house is 10,4375, to each of the other houses, 3,9774, and to the whole number of houses, 4,6711. And by another account taken in 1773, of St. Laurence, including Ramsgate, which contains more than two-thirds of the houses and inhabitants of the whole parish, there were found in that parish 699 houses, and 2726 inhabitants. And again, in 1792, there were found 825 houses, and 3601 inhabitants, which is an increase of 126 houses, and of 875 inhabitants in that parish in nine years.—The population in the latter period, 4,369 per house.

S O I L.

The bottom soil of the whole island, or what modern writers in husbandry call the subsoil, is a dry hard rock chalk. The tops of the ridges are about 60 feet above the level of the Sea, and are cover'd with a dry loose chalky mould, from 4 to 6 inches deep; it has a mixture of small flints, and is, without manure, a very poor soil. The vales between the ridges and the flat lands on the hills have a depth of dry loamy soil, from 1 to 3 feet, less mixed with chalk, and of much better quality.

The west end of the island, even on the hills, has a good mould, from 1 to 2 feet deep, a little inclining to stiffness; but the deepest and best soil is that which lies on the south side of the southernmost ridge, running westward from Ramsgate to Monkton; it is there a deep rich sandy loam, and mostly dry enough to be ploughed flat, without any water furrows. The Soil of the marshes is a stiff clay, mix'd with a Sea sand, and small marine shells. There is no commonable land, nor an acre of waste, in the island.

SYSTEM.

S Y S T E M.

The general system, or plan of management in this island, on all the thin light soils, has been, time out of mind, one of four courses, viz.

Fallow,
Barley,
Clover,
Wheat,

But subject to several variations, which have much increased of late. The soil having been greatly improved during the last fifty years of excellent management, it is found that the course may be extended to advantage by substituting Peas for Fallow, thus,

Peas,
Barley,
Clover,
Wheat.

Or,

Peas,
Barley,
Beans,
Wheat ;

And then return to a Fallow as before; and sometimes, tho' but seldom, and then generally considered as bad management, a crop of Barley is taken after Wheat, thus,

Barley,
Beans,
Wheat,
Fallow, &c.

It is to be understood here that the foundation of all good management, and the system most practised, is the first mentioned of the four courses ; and it is by this system, with the plenty of manure from the sea weed, that great part of this island, which is naturally as poor land as any in the kingdom,
is

is made to produce such excellent crops of corn of the first quality.

The deep rich sandy loam before described, and some of the best of the land at the west end of the Island, are cultivated under the round tilth system of East Kent, viz.

Beans,
Wheat,
Barley.

The process under the four course system is, after raking up the stubble of the wheat, and stacking it near the farm yard for littering hog pounds, thatching, &c. to plough the land five or six inches deep as soon as possible in the Autumn, which is cross plough'd when the land is tolerably dry in the Spring, and repeated two or three times during the Summer months. Between the times of ploughing, collections of mould, farm-yard dung, sea-weed, &c. are formed in convenient situations in the fields, which are turned over in the Autumn, and in frosty weather carried out on the fallow, at the rate of from 40 to 45 cart loads per acre ; this manure is spread and ploughed in, as soon as opportunity offers, and the barley is drilled in, at the rate of three bushels per acre, or sown broad cast, four bushels per acre, the first dry week in February or March ; and if for clover or trefoil the next year, those seeds are sown with the barley : the clover or trefoil lies only one year, and is ploughed about five or six inches deep in November, and sown with wheat.

If no seeds are sown among the barley, the stubble is plough'd in about six inches deep in the winter, and harrow'd the first dry week in February ; and then beans are drilled in furrows 18 or 20 inches apart, at the rate of four bushels per acre ; the furrows are harrow'd, and the land generally rolled down smooth. As soon as the beans appear they are horse-hoed, and sometimes immediately harrowed across the furrows, and then, as soon as they have recovered the harrowing, they are hand-hoed with a hoe about five inches

C

broad,

broad, at each side of the furrow, at the expence of three-shillings per acre ; which operation is repeated in May, or the first week in June, at four shillings and sixpence per acre ; the ground is then stirred with an earthing plate, to raise a quantity of mould against their stems.

As soon as the beans are harvested, the land is scuffled with the broad share, and made perfectly clean by harrowing, and burning the weeds, if any, and then ploughed for wheat. In both cases, whether clover lay or bean stubble, the wheat is usually sown three bushels per acre, after having been steeped in salt water from 5 to 12 hours, and mixed with flaked lime. When peas follow the wheat they are drilled in, and managed in every respect the same as the bean crop, except harrowing after the horse hoe. The barley and other crops after peas, are managed the same as if the land had been a summer fallow instead of peas. Under the round tilth system, the bean and wheat crops are managed the same as before mentioned ; but the barley is usually sown later, in order to give time, by thrice ploughing, to clean the land ; and the manure is generally spread on the barley stubbles for beans.

Radish seed is frequently sown on these lands instead of beans, for the London market ; and canary seed in lieu of wheat, both on the clover lays and bean stubbles. The radish is sown in March, on furrows made with a two or three cheped* plough, about ten inches apart, two or three gallons of seed per acre ; as soon as they appear, every other row is cut up with a horse hoe, leaving the rows twenty inches apart. When the plants get two or three rough leaves, they are hoed out to the distance of from ten to fifteen inches apart in the rows, and then kept clean by a second horse and hand hoeing, if necessary.

The crop is seldom fit to reap till October, and sometimes is out in the fields till near Christmas, without receiving any injury.

* A provincial term for the piece of wood on which the share is fixed.

injury from the wet weather ; it being necessary that it should have much rain to rot the pods, that it may thrash well.

Canary is sown the first dry week in February, on furrows ten or eleven inches apart, (the land being previously made fine and light on the surface ;) about four or five gallons per acre, and as soon as the furrows can be seen, they are hoed with a Dutch hoe, at the expence of twenty-pence per acre, and kept clean by repeated hoeings when necessary during the Summer. It is generally ripe by the beginning of September. Like radishes it requires much time in the field, and seldom suffers by wet weather.

Paring and burning is but very little practised here.

The system of grazing in the marsh lands of this Island is generally to buy in lean cattle and sheep, and keep them till they are fit for the butcher. The cattle are principally bought out of the Welch droves, and the sheep from the fold flocks in the vicinity.

The grafs that is mow'd for hay is usually set up in stacks, either in the marshes near a foddering lodge, or carried home to the farm yards on the borders of the marshes, and given to fatten bullocks, or sold to the Inn-keepers of Margate or Ramsgate.

The harvest for barley, oats, and peas, generally commences the last week in July, and for wheat, the first week in August.

LIVE STOCK.

S H E E P.

The sheep kept here are wethers of the Romney-Marsh* breed, which the flock farmers buy in when lambs, at Romney-fair, the 20th of August, at from 12 to 14s. each, according to times and circumstances ; and when they

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have

* See Romney Marsh.

have kept them two years, they either sell them lean to the fattening grazier, or make them fat themselves on turnips, and pea or bean straw. Sainfoin and clover hay are generally too valuable at the watering places, to be used for them. Oats, and cullings of garden beans, are sometimes given to finish them in the Spring. When these two yearling sheep are sold in the Autumn to the graziers, the price is from 24 to 28s. each ; and when made fat, produce from 34 to 42s. according to their size and fatness. The few sheep bred in these marshes are of the same sort, except some small parcels of Dorsetshire and South Down ewes, which are bought to make early fat lambs.

CATTLE.

The Cattle bought in by the grazier to fatten in the Marshes, are the North and South Wales sorts, which are brought by the Welch drovers to Canterbury and other markets ; and the chief part of the dairy cows are selected from those droves : others are a mixture of those and home-bred cattle of various sorts and shapes. The principal object as to a cow here, is the giving a large quantity of milk ; if a cow, tho' ever so ugly, is a good milker, and produces a cow calf, it is often reared for the dairy. There are no ox teams used here, which is partly the occasion of there being but little attention paid to the size and shape of the cows.

HORSES.

There are many very fine teams of cart horses in the hands of the farmers of this Island, some of which were bred here from a sort that has been long established ; and others are a cross, between the old Kentish cart mares, and stallions from the midland counties, or half bred Flemish ; and within these few years, there have been several very good mares brought from Flanders, which have cost from 25 to

40 guineas each. Black is the favourite colour, and there are but few of any other ; they are from 15 to 16 hands and an half high, with much bone and good action. They plough with four in winter, and work an acre and an half in a day ; and in barley season with two, and then plough two acres a day, with a mate to lead the horses.

H O G S.

The Hogs of this district are of various sorts, some farmers preferring large, and others small ones ; but there are none very large and coarse. The smaller sorts are those mixed with the Chinese breed. They are fatted at the age of 18 or 20 months, for the use of the family of servants in farm houses, and made to weigh from 10 to 25 score. The Chinese fatten readily, but are generally thick hided, and do not bear the cold well ; and from their tenderness are very apt to hide in stable dung and get the mange.

A great number of pigs are rear'd in this district, and fed in the corn stubbles for the butchers, which are killed in the Autumn for roasting pork, at the age of three or four months, then weighing as many score pounds each.

O R C H A R D S.

There are not any worth mentioning ; many farmers are obliged to buy apples from East Kent, for domestic use.

Hops have been tried without success.

I M P L E M E N T S.

The Kentish turn wrest plough is the only one known here ; it consists of a beam of oak ten feet long, five inches deep, and four broad, behind which is a foot 5 inches by $3\frac{1}{2}$ and $3\frac{1}{2}$ feet long ; on the top of this the handles are placed, and tenon'd to the end of the beam, and mortised at the bottom to the end of the chep. Through the beam, at 2 feet 5 inches distance from the foot, is a sheath of oak 7 inches wide, and

and $1\frac{1}{2}$ thick, which is mortised into the chep in an oblique direction, so that the point of the share is 22 inches distant from the beam. The chep to which the share is fixed, is 5 feet long, 4 inches wide, and 5 inches deep; the share is of hammered iron, weighs about 32 lb. is 20 inches long, and from $4\frac{1}{2}$ to 7 inches wide at the point.

The upper end of the beam rests on a carriage with 2 wheels, 3 feet 2 inches high; on the axletree is a gallows, on which is a sliding bolster to let up and down. Through the centre of the axle is a clasp iron, to which is fixed a strong chain call'd a tow, that comes over the beam, so fixed, as by means of notches, or a pin called a check, to let the whole plough out a greater length from the axle, thereby letting it down to a greater depth.

This implement altogether is most certainly a very heavy one, and from its construction must be made very stout; as otherwise either the beam or chep will break with the force of four strong horses when it comes suddenly against a rock or any stiff place in the soil, a hard beaten path, or root of a tree, &c. With these ploughs the soil may be turned up a great depth, and laid quite flat, without any kind of furrow being left open, which is a great advantage in a dry soil. They cost, with every kind of tackle fixed for drawing them, entirely new, about five guineas each.

Harrows consist of four beams of ash, each 4 feet and half long, and 2 inches and an half square, fram'd together so as to be 4 feet and an half wide behind, and 4 feet before; there are 6 or 7 teeth of iron in each beam, which when new are 11 inches long, and weigh about $1\frac{1}{4}$ lb. each; one boy usually leads a pair of horses, each drawing one harrow. They cost, with a strong iron chain, called here a harrow strap, about one guinea.

The carriages used for carrying corn to market, &c. are call'd hutches, drawn by 4 horses, generally loaded with from

7 to 12 quarters of corn, according to its weight and the distance it is carried. They are 13 feet long, are made crooked at the sides that the width cannot be positively ascertained; but are generally 3 feet wide before, and 4 behind at the bottom, and about 6 or 8 inches wider at top, and 20 deep; they are boarded at the sides and ends close enough to carry sand. If made with wooden axletrees, they cost about 20 guineas, if with iron 25.

The dung carts are of various dimensions, but mostly about 7 feet long and 20 inches deep; 4 feet broad behind, and 3 feet 10 inches before; are usually drawn by 2 horses, and with broad wheels; and with every thing new and well made, cost about 8 guineas.

Rolls of various sizes are used for breaking the clods, they are made 9 feet long, and from 14 to 24 inches in diameter;—cost from 3 to 10*l*.

Wheat is reaped with a toothed sickle. Barley and oats are mown with a long scythe and cradle; they are then bound into sheaves with a harvest rake, being drawn together on one foot 'till the bundle is of size sufficient for a band made of two lengths of the corn twisted together.

Horse rakes are used for dragging together the loose barley left by the binders; they are made of oak, 12 feet long, with iron teeth 14 inches in length and 5 apart; the beam is cut 4 inches by 3; these rakes are drawn by one horse led by a boy, with a man behind to lift it up every time it is filled with the corn. Price from 18*s*. to 24*s*.

Wheat stubble rakes are used to drag that article together, made on the same principle as the last mentioned, but much heavier and 2 feet shorter; the beam is 5 inches by 4; drawn by two horses. Cost about 2*l*. 2*s*.

PRICE

PRICE OF LABOUR.

	s. d.	s. d.
Labourers per day (of ten hours) —	1 6 to	1 8
Thrashing Wheat, per quarter —	2 0 to	3 0
Barley — — —	1 4 to	1 8
Beans — — —	1 0 to	1 2
Oats — — —	1 0 to	1 2
Peas — — —	1 6 to	1 8
Canary feed — — —	—	6 0
Radish, per bushel —	1 6 to	1 8
Clover Seed — — —	—	5 0
Spreading Dung, per hundred cart loads —	—	4 0
Turning ditto, ditto — — —	—	4 0
Casting Ditches in the Marshes, 11 feet wide, and 3 or 4 deep, per rod	1 2 to	1 8
Hedges, very few made, and those ge- nerally by the day.		
Hoeing Beans first time, per acre — — —	—	3 0
Ditto, second time — — —	—	4 6
Ditto Peas, per acre — — —	3 0 to	4 0
Dutch-hoeing Canary & Barley, per acre	1 8 to	2 0
Common hoe — — —	3 6 to	4 0
Hoeing Turnips, per acre — — —	—	6 0
Reaping Wheat, per acre — — —	8 0 to	16 0
Mowing Barley & Oats, including bind- ing, making bands, and shocking	4 0 to	6 0
Cutting Beans and binding — — —	—	6 0
Peas, without binding — — —	4 0 to	5 0
Canary or Radish Seed — — —	6 0 to	7 0
Mowing Sainfoin — — —	2 0 to	3 0
Clover Hay — — —	2 0 to	3 6
Seed — — —	—	2 0
Grass, in the marshes, — — —	—	2 6

Waggoner's

				£.	£.
Waggoner's wages by the year, with board				10	to 13
Second Ploughman	—	—	—	9	to 11
Third ditto	—	—	—	8	to 10
Waggoner's Mate	—	—	—	6	to 10
Second Boy	—	—	—	4	to 7
Third ditto	—	—	—	3	to 6
Bailiff	—	—	—	12	to 16
Dairy Maid	—	—	—	4	to 6
Cook	—	—	—	4	to 7
				s. d.	s. d.
Shepherd, per week	—	—	—	9 0	to 10 6
Women weeders, per day	—	—	—	0 8	
Children, from 10 to 14 years old	—	—	—	0 6	
Value of Ploughing an acre of land	—	—	—	7 0	

What Improvements have been made.

The improvements that have been made here in the last half century are striking, and have arisen from the alteration of system, the plenty of manure judiciously applied, and the advantage of long leases. The attention of the farmers to the destruction of weeds is exemplary. Some of the farms, in the upper and middle part of the Island, were, within the memory of men now living, the greater part of them poor barren sheep walks, intermixed with fields of arable land, with crops of corn in the month of June grown yellow with charlock in full bloom, so as to cover the corn; besides many other sorts of weeds, and the crops of corn among the weeds sometimes hardly worth harvesting. But now on these farms very few weeds are to be seen, and the land is covered with crops nearly equal to what the best land produced formerly, when less attention was paid to weeding and cleansing the crops.

D

The

By this change of management, and the consequent improvement, some farms here have been sold at fifty and sixty years purchase.

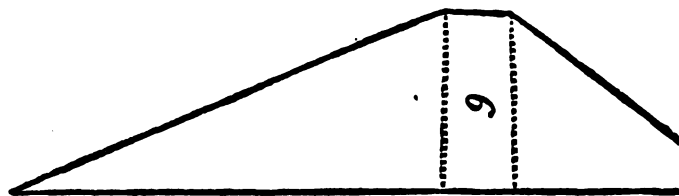
It is not to the excellent system and sea weed only, that these improvements are to be attributed, for the sheep fold claims a considerable share. Turnips raised by means of manure, and fed off by the flock upon such a light dry soil, is a certain way of getting a crop of barley or oats; and those crops being sown with clover or trefoil, and folded in the Summer, form the best tilth yet known for wheat, and the land is left in an improved state for the next crop of turnips. There is yet another cause of some of the improvements, in the use of marsh or ditch mould, which some farmers get in the summer time, and mix with their farm-yard dung, in heaps of from 3 to 600 cart loads, turning the whole together, and when thoroughly incorporated, they carry it out for barley or turnips, at the rate of 40 or 45 loads per acre. These are the whole of the agricultural improvements made on the arable lands of the Isle of Thanet.—A part of the marsh lands have been much improved, by means of shortening the course of the river Stour to the Sea, by a cut across a narrow isthmus of land in Stonar, thereby letting off the superfluous water, in wet seasons with greater expedition.

How far the navigation of the river to Sandwich is injured, for want of the back water, is not my business to enter upon here.

Some of the marsh lands have been improved by hard stocking with sheep, and a very valuable tract of near 200 acres, has been lately enclosed by a strong wall from the sea, near Ebb's-Fleet.

The

The perpendicular height of the wall — — 9 ft
 Width at bottom — — — — 36
 Top — — — — — 3
 The face of the wall to the sea forms an angle whose
 base is — — — — — 22
 And perpendicular height — — — — 9
 The back side forms an angle, whose base is — 11
 And perpendicular height the same — — 9
 The expence 27s. per rod.



27s. per Rod of $16\frac{1}{2}$ Feet.

This against the sea in the deepest water. A lesser wa
 made nearer the shore, whose
 Perpendicular height is only — — — 7 ft
 Width at bottom — — — — — 29
 — at top — — — — — 2
 The face next the sea forms an angle whose base is 18
 And perpendicular height — — — — 7
 The back side forms an angle whose base is — 9
 And perpendicular height — — — — 7
 The expence 17s. per rod.



17s. per Rod of $16\frac{1}{2}$ Feet.

What improvements may be made.

After having said so much in favor of the improvements already made in this Island, and the excellent system under which it is cultivated, it cannot be expected that there is much to be said on this branch of the subject.

There are, however, some improvements yet to make, for there are several fields of poor thin chalky lands on the hills, in the vicinity of Margate and Ramsgate, that never were known to have any manure carried to them, which doubtless would pay very well for mending after a few years, if the occupier had the whole of the produce to himself; but the mischief is, that if he is at a great expence in purchasing town dung, or getting sea weed up the cliffs for this land, he is probably a considerable loser the first two or three years by his industry; when at the same time the tithe gatherer, who is at no part of the expence, trouble, or hazard, gets corn each year perhaps equal in value to two or three years purchase of the land in its unimproved state; hence it is, that some of the poor land lies neglected. If a fair commutation for tithe could be devised, so as to satisfy all parties, there can be no doubt but that the produce of this Island, great as it already is, would be much encreased, by the additional crops that would be raised on these barren spots, which would be an advantage to the community in proportion to the additional stock of productions*. There would be another very considerable advantage to the public in the saving of labour, in harvest, by the corn being carried into the occupiers barns in much less time

* Having sent a copy of this report to an ingenious friend in Thanet, he returned it with the following remark.

“ Whatever may be the ill effects of tithe taken in kind, or whether any, I shall not here enquire into, but only remark, that the thin chalky land on the hills in the vicinity of Margate and Ramsgate, are not indebted to the tithe gatherer for their little produce, but to the inability of the occupiers, who are, generally speaking, mean in circumstances, carters, machine drivers, &c. &c. who plough, &c. when they can, in season or out of season. The same kind of land in the occupation

time than it is carried into the parsonage; the latter being frequently at a great distance from some part of the parish, much time is spent in getting the corn home. The value of the difference of the labour, between carrying the tithe corn into the parsonage and farmer's barn, is just so much loss to the public, and if rightly calculated for the whole kingdom, would amount to an immense sum ‡.

Among the disadvantages to the public in the collection of tithe in kind, the quarrels between neighbours, who perhaps would otherwise be very good friends, is a very material one; and more particularly where the tithe gatherer happens to be the clergyman, (who, of all men, ought to be on the best terms with his parishioners) but this fortunately is seldom the case in the Isle of Thanet, the tithe there being mostly in lay hands.

For the reasons before mentioned, a commutation for tithe, may fairly be ranked among the first of agricultural improvements remaining to be made*.

IRRIGATION.

occupation of the wealthy farmer, exhibits a very different appearance to the eye of the spectator, and produces a more ample return to the pocket of the occupier."

‡ This is most certainly in some measure the case; but there is a much greater quantity of poor unimproved land occupied by farmers, than by carters and machine drivers; Nash-Court Farm, near Margate, has several score acres, which in all probability would have been manured before this time, had they been tithe free.

‡ The author is a tithe gatherer to a considerable amount, and of course interested in the collection of tithe; but seeing, as he does, the many obstructions to all agricultural improvements, together with many other inconveniencies, and losses to the public, by means of tithes; and being called upon for his opinion, he feels it his duty to give his sentiments.

* The following is a remark by the same gentleman in Thanet.

"All the great or corn tithes are in lay hands, (excepting a small portion in Minster) and are all taken in kind; and yet this report states agriculture in a very flourishing state in Thanet; it would perhaps enlighten the question, if a fair comparison could be made, with strict impartiality, between a tithe free farm, and some of the best cultivated and managed farms, subject to the tithe gatherers, in Thanet and East-Kent."

The

IRRIGATION.

There is some of the marsh land, at the lower part of the river Stour, which is under the level of the river at spring tides, and probably might be irrigated to great advantage, and the more so, as hay is often very valuable, on account of the demand at Ramsgate, Margate, and other bathing places in Thanet.

P O O R.

Great improvements might be made in the police and management of the poor in this Island, by incorporating the ten parishes, and erecting a house of industry, somewhere in the centre, by which means the whole would be maintained at much less expence, and the greater part of the poor much better provided for than they are now; the expences of the poor for the last three years, I have been favored with by the different parish officers, and are as follow, viz.

			POOR			POLICE		
			£.	s.	d.	£.	s.	d.
Sarre	—	about	300	0	0			
St. Nicholas	—	—	733	0	0			
Monkton	—	—	973	0	0			
Birchington	—	—	899	0	0	6	10	4½
Woodchurch	—	—	252	0	0			
Minster	—	—	1449	0	0*			
St. John Baptist	—	—	3786	0	0	17	0	0
St. Peter the Apostle	—	—	1972	0	0			
St. Lawrence	—	—	384	14	7			
Stonore	—	—	34	10	1			
			<u>3) 10783</u>			<u>4 8</u>		
Average of three years			£ 3594			8 2		

or

The local advantage of an inexhaustible supply of manure from the sea, is sufficient to counterbalance the disadvantage of payment of tithe in kind, and seems to be the true reason why so much of the poor land has been improved.

* Of this sum, the parish of Minster, has expended in rents for poor people, who were not able to pay their own rents, £. s. d.

from Easter	1790, to Easter	1791,	8	5	0
	1791, to - -	1792,	14	7	6
	1792, to - -	1793,	19	12	6

One

or annual expence of maintaining the poor of the Isle of Thanet, which is 2s. 7½d. for every acre of land.

Among the list of improvements that may be made, a better mode of drawing leases between landlord and tenant is a very material one. Many of the leases, of the present time, are mere copies of old ones, that have been handed down through several generations, and are as little understood by some farmers, (if ever they read them) as if they were written in Hebrew or Greck. Leases should be simplified, and made as short as possible, and written in terms easily comprehended by the meanest capacity ; all repetitions avoided, and no covenants whatever inserted, but what are absolutely necessary. Some farmers are bound to sow wheat after beans, on land not fit to produce beans ; to leave a quantity of podware gratten†, for a wheat tilth on farms where some sorts of podware is the worst tilth, known to sow wheat upon ; and on dry upland farms, where turnips and clover are known improvements, not the least mention of those articles ; not even a covenant, to leave an acre of either, at the end of the term, nor to destroy wild oats, charlock, or thistles *.

For want of a reform in this department of farming business, estates are often much injured, and incoming tenants half ruined in getting their farms into good order. It is the interest of every tenant, having a term of years in his farm, not only to keep it in good condition, but to improve it till within the last two or three years, and consequently not many

One very great impediment to any effectual reform in the management of the poor in Thanet, arises from the different jurisdictions of the County, of Sandwich, and of Dover within it.

In the jurisdiction of the County.	Of Sandwich.	Of Dover.
St. Laurence, only part.	Ramsgate, the remainder of St. Laurence,	The whole of Birchington, ditto of
Minster, all.	Sarre, the remainder of St. Nicholas.	Margate, ditto of St. Peters§.
Monkton, all.		
St. Nicholas, only part.		

§ Note by a friend in Thanet.

† Local term for stubble.

* These observations are equally applicable to other parts of the county.

many restrictions are necessary during that period ; it is requisite, therefore, only to make it equally his interest during the remainder of the term, which would be most effectually done, by compelling him or his heirs to allow for damages, as the clergy do for delapidations.

Miscellaneous Observations.

Woodlands.—There is but little wood growing in this island. Husbandry use stuff and fire-wood is brought from the neighbouring parishes.

Provisions.—The price of provisions, during the winter, is the same here as in other parts of the county ; but during the bathing season, they become high, owing to the great influx of company. At Dandelion, near Margate, there is a public breakfasting every Wednesday during the season, where more than a thousand persons have assembled at one time ; while this is the case, provisions cannot be very cheap there.

Farm Houses.—Nothing can exceed their general neatness, and even elegance. From some of them, there is the most beautiful prospects of East Kent, the Downs, and coast of France.

Manure.—Mention having been made of the sea-weed, it remains only to describe the method of getting it up, which is done through sloping passages in the cliff, called gate-ways, for the carts to go down to the sea. When a quantity comes ashore, after a gale of wind, the farmers set all hands to work, to get as much as possible while the tide serves, lest the next tide should carry it away ; and if it happens in the night, they work at it then till stopped by the waters coming on. Some farmers will get up in one tide two or three hundred cart loads ; those who live at a distance hire small spots of land, of a few perches, to lay the fresh weed upon as they get it ; and carry it away to the farm at a more convenient opportunity. It sometimes comes ashore in quantities that amount

to several thousand cart loads, and perhaps all swept away by the next tide. The principal method of using it, is by mixing it in layers among the farm yard dung in the mix hills, it is of great use in helping to rot the dry part of dung carried out of the farm-yard in Summer.

Besides the advantage of this manure, there is another in the great quantity of dung made in the towns of Margate and Ramsgate, which is eagerly sought after by the farmers.

Sea sand is sometimes used among the farm-yard dung, and is of great service.

Highways.—The roads are all mended by the parishes, and are kept in excellent order.

Weeds.—A weed begins to infest this Island, and is not a little alarming to the farmers, as it is of the most prolific kind, and very difficult to eradicate. It was introduced a few years ago among some oats, which were imported in a vessel that was wrecked upon the coast of the island, and were washed by the tides along the shore among the sea weeds, and with that carried to different farms at the same time. It is of the class *Tetradynamia*, and produces its seed in a pod; flowering and seeding at the same time throughout the Autumn. The inhabitants call it the Stink-weed, from its fetid smell. It seems to be either the *Brassica Muralis*, of Hudson, or a variety of it.

The Upland Farms of EAST KENT.

Under this head it is intended to describe all the district of upland in the eastern part of the county, not comprehended in the districts of Thanet, Shepey, or the rich lands of Deal, Sandwich, and Faversham. It is of two kinds, one very open and dry, the other much enclosed with wood and coppices; the open part lies between the city of Canterbury and the towns of Dover and Deal, and the enclosed part of the tract extends from Dover, by Eleham and Ashford to Rochester length, and from the Isle of Shepey to Lenham, &c. in breadth.

E

SOIL..

S O I L.

The open part of the district between Canterbury, Dover, and Deal, is of various soils, no one parish or farm being perfectly similar in all its parts. The principal Soils are, 1st. Chalk, 2d. Loam, 3d. strong Cledge, 4th. Hazel Mould, 5th. stiff Clay. Besides these there are some small tracts of Flints, Gravel, and Sand. The chalk soils are of various depths, from three to six or seven inches of loose chalky mould, on a rock chalk bottom, and are mostly found on the tops and sides of the ridges of this district. At some places there is a little mixture of small flints, and at others of black light mould, provincially called black hover. This last, in an unimproved state, is the worst land of this district, and the whole of these chalky soils are much neglected, and consequently of very little value; but where they happen to be improved, by paring and burning, destroying the charlock, with good manure afterwards, they become very good land for turnips, barley, clover, and wheat; and some parts produce tolerable crops of sainfoin.

The loamy soil is a very dry soft light mould, from 6 to 10 inches deep, on a red soft clay, which is good brick earth and lies in a stratum of from 3 to 7 feet deep, under which is generally a layer of chalky marl, and then the rock chalk. This soil is very good, ploughs light, and may be worked at all seasons, and it produces good crops, if well managed, of all sorts of corn or grass.

The strong cledge is a stiff tenacious earth with a small proportion of flints, and at some places small particles of chalk; it is from 6 to 10 inches deep, on a hard rock chalk, and is found on the tops of the hills; when wet it sticks like birdlime, and when thoroughly dry, the clods are so hard as not to be broken with the heaviest roll. It is very difficult to work, except when it is between wet and dry. This land, when well managed, and the seasons are favorable for the work, produces good crops of wheat, clover, and oats, but
when

when unkindly seasons happen, and dry summers succeed, it is very unproductive.

The hazel mould is a light soil on a clay bottom, more or less mixt with flints and sand. It is dry and forms very kindly land for barley and wheat upon clover lays. Beans are sometimes blighted on this sort of land, as is wheat also on bean or pea stubble, but more particularly the latter, for which reason wheat is very seldom sown after peas.

The stiff clay lies on the tops of the highest hills, about Dover, the wetness of this soil arises only from the rains in Winter, for the springs are above 300 feet deep. This is a cold late soil from 8 inches to 12 deep, on the rock chalk. It has at some places a layer of a yellow coloured clay, between the surface mould and the rock.

Flints.—This land or rather mass of stones occurs only in small tracts in the valleys about Dover, and Stockbury near Maidstone. It consists of beds of flints with hardly any mould to be seen. It is very expensive to plough; but under good management, with plenty of manure, is very productive in wheat, barley, and beans. There is very little gravelly soil, and not much sand in this district, a little of the latter, however, is seen in the vicinity of Hythe and Folkstone. It is very light land to work, and excellent for turnips, barley, clover, wheat, peas, and potatoes.

S Y S T E M.

The first mentioned soil, namely, chalk, forms a very considerable part of the district under survey. This sort of land cannot be said to be under any settled system of management, for there are almost as many schemes of practice as farmers; much of it is down land or sheep walks; some of which (although no very material part) has been so time out of mind, and some tenants are restrained (very injudiciously) from breaking up those old downs. The practice has been chiefly, when old sheep walks have been ploughed up, to do it in wet

weather, in the midst of winter, when other arable lands are too wet to work with advantage; and the principal inducement has been that of employing the teams when they would probably be doing mischief on better soils. This sort of land, when so ploughed, is usually sown, in March, with black or grey oats, which, from being generally overrun with charlock, (provincially called Kinkle) produces very poor crops, sometimes hardly worth harvesting. The crop of oats is generally succeeded by a fallow ; perhaps sown with cole seed, and then oats with seeds*, and after that crop, if the land can be folded, a slight crop of wheat is obtained ; but that only on some of the best parts of the field, where there is a greater depth of soil, or the flat tops of some downs where there is a soil somewhat stiffer and better than the slopes of the hills. Some of the courses of crops of the down lands, when ploughed, are as under, viz.

1.	2.	3.
Down land	Down land	Down land
Oats	Oats	Oats
Coleseed	Fallow	Fallow
Oats	Oats	Oats
Seeds	Clover or Rye Grass	Sainfoin, from
Oats	Oats	5 to 10 years
Fallow	Fallow	
4.	5.	6.
Downland	Down land	Down land, burnt
Oats	Peas	Turnips same year
Tares	Coleseed	Barley
Coleseed	Oats	Clover
Oats	Clover	Wheat
Seeds	Wheat	Turnips, &c.
Wheat	Fallow	
Fallow		

* Clover and trefoil.

7.	8.	9.
Downshare Turnips	Downshare Turnips	Downshare
Turnips	Turnips	Wheat
Barley	Barley	Barley
Clover	Sainfoin	Oats
Wheat		Oats
Fallow		Rye Grass

The five first and last are the prevailing courses, and are each of them very bad, as they generally tend to impoverish the soil, and make it worse, if possible; for whatever grows upon it is carried to the barn among other crops, and the straw goes to the general mass of dung, and increases the heap for the better sort of land. Hardly any body ever thinks of dunging this soil, it is consequently impoverished, by being robbed of every thing it produces. But it is not so with the 6th, 7th, and 8th courses, for there the burnt turf produces turnips almost to a certainty; and by folding these off with sheep, much manure is left on the land, and a stout crop of barley and clover obtained; the clover being again folded off, a good crop of wheat is produced, and the land in a gradual course of improvement. The 9th, and last mentioned, is the course after downsharing that has hitherto generally prevailed, and is the most destructive plan that can be devised; It is this injudicious management of downshare land, that has brought the practice of downsharing into disrepute. Four crops of white corn in succession, with rye grass at last, would impoverish the best land in the kingdom; what then must it do on some of the worst? Even if rich land was well manured for a crop of wheat, and that succeeded by three crops of white corn and rye grass, it must inevitably become poor; and then the coat of manure might with as much propriety and justice be condemned for having done the injury, as the downshare for having hurt the land before mentioned; in short, it is not downsharing, but the wrong management afterwards

afterwards that is destructive. Downsharing is the greatest improvement yet known for chalky soils, if rightly managed.

Loamy soils are usually under the round tilth system of East Kent, viz.

Barley,
Beans,
Wheat.

The barley is a cleansing crop, by being first ploughed in the Winter, and then twice or thrice more in dry weather in the Spring, before the barley is sown. Some farmers, whose land is very clean, plough only twice, and then drill the barley in April, in rows from 7 to 10 inches apart, hoeing and hand weeding the intervals. Four bushels are sown broad cast, and from two and an half to three drilled per acre. Barley is mown, and after lying a week or two is bound in sheaves, and set up into shocks of ten at a place to be tithed. The barley stubbles are ploughed in the Winter as soon as wheat sowing is over, and dung intended for beans carried out. The beans are put in rows from 18 to 20 inches apart, if boxed in, four bushels per acre; if drilled or dropped by hand, three only; the crop is horse and hand hoed, as in the Isle of Thanet, and the whole with the succeeding wheat crop is managed as mentioned in that district. See page 17.

The strong cledge is generally under a four course system of

Fallow,	Or	Fallow,
Oats,		Wheat,
Clover,		Clover,
Wheat.		Wheat.

The oats and clover are sown, in a dry season, in March; the clover is generally fed with sheep and folded for wheat, which is sown early that the work may be finished before much wet weather sets in. If the fallow is cropped with wheat, it is sown the end of October, or beginning of November; the clover seed in that case is sown on the wheat in

the spring, and covered with a roll only ; for this soil is generally too much pulverised with frost to admit harrowing at that time. The clover is fed as beforementioned, and the crops of wheat and oats are harvested as on other soils already described.

The hazel mould is under different systems at different places, according to the fancy of the farmer or situation of his land. Some pursue the Norfolk system of

Turnips,
Barley,
Clover,
Wheat.

Others the East Kent, of
Barley,
Beans,
Wheat,

And others Peas,
Barley,
Clover,
Wheat,

Some sow early peas and turnips the same year.

This sort of soil being dry and very easy tillaged land, it may be managed as well under one course as another. If the occupier has with it a tract of grazing land, he finds turnips and clover convenient, and pursues the Norfolk system ; on the other hand, if he has no grass land, or has the corn tithes himself, he finds it most advantageous to pursue the East Kent system. The methods used for sowing and harrowing the several crops, are the same as before mentioned ; it is needless, therefore, to repeat it here.

The stiff clays on the tops of the chalk hills are under a four course system of

Fallow,
Wheat,
Beans,
Barley ;

And

And a very good one it is for such a soil. The fallow gives an opportunity of getting a fine early wheat season, which is very necessary on this cold backward land. The wheat stubble is ploughed soon in the Winter, by which the frost brings the surface into fine order for drilling the beans as soon as the land gets dry in the Spring. The beans are horse and hand hoed to keep the land clean for the barley crop, which is put into the land at two ploughings only. The corn is harvested in the same manner as on other soils, but is much later than any other sort of land. The wheat harvest usually commences about 14 or 18 days later than in the Isle of Thanet, or towards the end of August, and other crops in the same proportion.

The system of grazing in East-Kent, on the upland farms, if it may be called grazing, is that of feeding flocks of lean sheep on the downs and seeds, folding them every night. These are bought in wether lambs, in August, and sold out lean when about two years and a half old to the fattening graziers. Some farmers of late years, by sowing many turnips, make their wethers fat and sell them to the butchers in the Spring.

L I V E S T O C K .

Almost the whole of the sheep kept on the upland farms of East Kent, are the true Romney Marsh breed, whose carcasses and bones are large, and wool is long and fine. They are a sort of sheep that require rich land and good keep to make them fat; and when they are so, come to a great weight, with a very valuable fleece. It seems quite contrary to reason and nature, that they should be equally adapted to rich marsh land and poor chalky downs, and consequently they are not so fit for this district as the South Down sort, whose natural soil is a fine turf on chalk hills.

The cattle are the same as described in Thanet, viz. mixtures of many sorts, without any attention whatever to breed or shape. It is much to be regretted, and somewhat extraordinary,

ordinary, that in a country where agriculture is arrived at such great perfection, there should be so little attention paid to the breed of cattle.

H O R S E S.

Many farmers have great pride in their fine teams of horses, which are often much too fat to do the quantity of work in a day that they ought. The sort, size, and value are much the same as before mentioned in Thanet.

H O G S

Are of many sorts and mixtures: they are usually kept in farm-yards, until they are a year and a half old, and then put up to fatten on beans and peas, for pickling pork, which is laid down in brine tubs, to feed the ploughmen; they are made to weigh from ten to twenty-five score pounds each. Some are fattened and killed at from six to twelve months old, and sold to small families in the neighbouring towns and villages, or to pork-butchers, who retail them in sides and quarters; to those families. The business of rearing and fatting hogs for sale, is generally considered as a bad one.

There are not many hop-gardens on the upland farms of East Kent; they are managed as will be described under that particular head; those of the parishes of Woodnesborough, Ash, Wingham, &c. are the principal, and will be more properly included in the flat rich lands of the vicinity of Sandwich, as will likewise the orchards of that part of East Kent.

IMPLEMENTS OF HUSBANDRY.

The Kentish turn wrest plough, harrows, rolls, hitches, dung carts, &c. with the prices of each, are the same as described in the Isle of Thanet. See page 21.

F

PRICE

PRICE OF LABOUR.

		<i>s. d.</i>	<i>s. d.</i>
Labourers per day	— —	1 6 to	1 8
Thrashing Wheat, per quarter	—	2 0 to	3 0
Barley	— —	1 4 to	1 10
Beans	— —	1 0 to	1 3
Oats	— —	1 0 to	1 6
Pcas	— —	1 6 to	2 0
Canary feed	— —	6 0 to	7 0
Clover Seed, per bushel	—	—	5 0
Spreading Dung, per hundred cart loads,			
.24 bushel each	— —	—	3 6
Turning mixhills	— —	—	3 6
Making hedges, per rod	—	0 2 to	0 4
If plashed and bound	— —	—	0 6
Hoeing Beans, per acre	— —	3 0 to	3 6
Pcas	— —	3 0 to	4 0
Dutch-hoeing Barley, per acre	—	1 8 to	2 0
Common hoe	— —	3 0 to	4 0
Hoeing Turnips	— —	5 0 to	6 0
Reaping Wheat, per acre	— —	7 0 to	15 0
Mowing Barley or Oats	—	1 8 to	2 6
Binding and shocking	— —	1 8 to	2 6
Cutting Beans and binding	—	5 0 to	6 0
Pcas, without binding	—	4 0 to	5 0
Canary	— —	6 0 to	7 0
Mowing Sainfoin	— —	1 8 to	2 6
Clover for Hay	—	2 0 to	3 0
Seed	—	2 0 to	2 6
Grass Hay on Meadow	—	2 6 to	3 0

	£.	s.	d.	£.	s.	d.	
Waggoner's wages, per annum (and board) — — —	10	0	0	to	13	0	0
If a married man, and boards himself, per week — —	0	10	0	to	0	10	6
Second ploughman, at per annum	9	0	0	to	11	0	0
Third ditto — —	8	0	0	to	10	0	0
Waggoner's mate — —	6	0	0	to	9	0	0
Second plough boy —	4	0	0	to	6	0	0
Third ditto — —	3	0	0	to	5	0	0
Bailiff — —	12	0	0	to	16	0	0
Dairy maid — —	4	0	0	to	5	0	0
Cook maid — —	4	0	0	to	5	0	0
Shepherd, per week — —	0	9	0	to	0	10	0
Womens wages for weeding, per day — —	0	0	8				
Children from 10 to 13 years old — —	0	0	6				
Value of ploughing an acre of land	0	7	0	to	0	10	0

W O O D L A N D S.

The woodlands of the eastern part of Kent are dispersed principally between the great road from Rochester to Dover, and the chalk hill that runs from Folkstone by Charing to Detling. These woods furnish the country with fire wood, tillers for husbandry uses, and the dock yards with timber for ship-building; but the most material part of their produce is the immense quantity of hop-poles cut out for the neighbouring plantations.

S O I L.

The soil on which these woods grow is of various sorts; by much the greatest part of the subsoil is a hard rock chalk, and the surface is in some parts clay, others stiff cold cledge, intermixed with flints, and some is a poor cold loam. The chief of the productions of the chalky soils, are ash, willow, and hazel, and of the cold clays, oak, birch, and beech. The

usual age of felling, from twelve to fifteen years growth, and the method is to cut and lay it in ranges of two rods in width, throwing out the hop-poles of two ranges into one row, and then laying them up in half hundreds for sale: stakes and binders, for hedge-making, are cut out by the men who fell the wood, as are the large poles for husbandry use. The wood is generally sold by the proprietors to wood dealers, by the acre, and they retail it to the consumer. Tithe is paid for it at the rate of two shillings and three-pence per pound, of the price the proprietor sells it for. The price of felling is from fourteen to sixteen shillings per acre, with ten or twelve pence per hundred, for all the hop-poles, and four pence per hundred for the stakes and binders. The range wood is commonly sold in small lots of twelve perches, in the most eastern part, where wood is scarce, and where more plentiful, it is frequently sold by the acre, or made up into faggots and sold by the hundred. The price of labour, for making the faggots for domestic uses, is from two and six-pence to three shillings per hundred; and for brick kilns, from eighteen pence to two and six-pence per hundred; for domestic uses they are made six feet long, and three feet in girth, and for brick kilns of different shapes and sizes, according to the fancy of the brick manufacturer. Woodland estates are generally considered of very great value, but to say what they produce would be ridiculous, for some are worth only five pounds per acre when felled, while others are worth forty pounds or more; their value depends almost entirely on the quantity of hop-poles they produce, and the price they sell for.

There are no common fields in this county, and but few common pastures in this part of it; the principal and only one of any extent, is Swingfield Minis near Eleham, which contains about five hundred acres: an attempt was made a few years ago to get an act of inclosure, but the owners and occupiers could not agree about it.

What

What Improvements have been made.

The principal improvements that have been made on the uplands of East Kent, are,

Cleaning the poor lands from weeds.

Turf burning.

The introduction of turnips.

Erecting Houses of Industry.

The chalky lands are naturally subject to charlock, which formerly was never pulled out of any but the best land ; but of late years, many farmers have found it their interest to eradicate this pernicious weed equally from the bad and good land: If land is not rich enough to produce one good crop in a year, it is quite contrary to reason to suppose it capable of producing two ; the destruction of weeds therefore must leave the land in better heart for a crop of corn, and when land is once got clean from weeds it is very easy to keep it so ; but if one year neglected, and a crop of the seeds of weeds is suffered to drop on the land, it becomes a work of time and difficulty to get it clean again. The method used to eradicate weeds, is to make good summer fallows, ploughing often in dry weather, and always to harrow the land and roll it down close after the plough, while it is moist and mellow ; that brings up the seedling weeds, which subsequent ploughings destroy. The succeeding crops of corn are drilled, which gives an opportunity of taking out what few weeds remain.

Some poor lands of this district have been greatly improved by downsharing and burning the turf of waste banks and highways. Downsharing is done by hand, cutting the turf from half an inch to an inch and half in thickness, and burning it to ashes. The whole work is done for 30s. per acre. Turf ashes are made from waste spots, by being dug with the spade, or pared with the downshare plough, for 6d. per cart load of about 30 bushels.

Crops of wheat and barley have lately been produced on some of the chalky downs (by means of these improvements) that were worth more than the fee simple of the land on which they grew.

The introduction of turnips on the poor lands of East-Kent increases every year, and is most certainly a very great improvement, for by that practice good crops of corn are obtained, on lands which were before hardly worth cultivation; and flocks of sheep are seen on farms that never before kept any, and their produce in corn is equal, if not superior, to what it was before any sheep were kept.

Several Houses of Industry have been erected, under Mr. Gilbert's act for incorporating parishes; which provide a better maintenance for the poor, and education for their children, who before were brought up in idleness and vice.

Some of the corporations that have been established a few years, have already made a considerable reduction of their debt, which sufficiently proves that their sesses will in time be reduced.

What Improvements may be made.

Nothing can be devised that would so much set improvements afloat as a commutation for tithe.

There are immense quantities of poor land in East Kent, which, experience has proved, might be made to produce good crops of turnips and clover, that never yet have produced either; but the expence is so great to the occupier, with the idea before him that another may reap the greatest benefit, that hardly any person is willing to set about improving on such terms. The productions above-mentioned were raised on lands that paid no tithe, and that circumstance was the principal inducement to make the exertion.—Let tithes be compounded for, if it was only for one term of 20 years, and turnips, clover, mutton, and wool would increase in an astonishing degree. Farmers then
would

would have the satisfaction of reaping the fruits of their own labour; and would set about turf burning and every scheme they could devise to mend that land which they now care but little about.

There are some small tracts of grass land along the rivers and rivulets of this district that might be irrigated; but the practice (among the farmers in general) is hardly known.

The introduction of South-Down sheep, on the chalky downs of East-Kent, may be mentioned as an improvement of great importance; experience has proved the fact beyond a doubt; but farmers in general are so bigotted to old customs, that it is with great difficulty they can be persuaded to make trial of any new kind of stock, or to adopt any innovation whatever.

SWINGFIELD-MINIS,

Before mentioned, is a common covered with furze and brakes, with a few small patches of grass; it supports some lean cattle and poor half starved sheep; the soil is a very cold soft loam, and might probably be converted, by an act of inclosure, to good meadows, for there are several small pastures on the borders of it that produce very good grass.

PROVISIONS.

The common price of provisions at this time (November

1793,) are	s. d.		s. s.
Beef, - - per lb.	0 5	Ducks and Fowls, per	
Mutton, - - - -	0 5	couple, - - -	2 to 3
Pork, - - - - -	0 5½	Turkeys, each - -	4 to 5
Veal, - - - - -	0 6	Geese, ditto - - -	4 to 5
Best cheshire cheese, -	0 6½	Fat Pigs, a month old,	3 to 4
Rough meal, per bush.	6 0	Apples, per sack, -	7 to 8
		Potatoes, - - - -	4 to 5

At Canterbury a society for the encouragement of agriculture has been lately instituted, which is liberally supported, and.

and promises to be of great public utility. See Annals of Agriculture, No. 119.

The management of WOODLANDS, in the District extending from CHATHAM-HILL to CHARING.

The soil on which these woods grow is, for the most part, flint and clay, with chalk at no great distance from the surface. Where chalk is the chief component part of the upper surface, the wood is of slow growth and little value. They are generally cut down from 10 to 14 years growth, and the price varies from 5 to 15l. per acre, depending in a great measure on the goodness of the wood, the demand and the price of poles. Hop poles are the chief article which make woods valuable in this part of the country, there is not only a constant demand for them at home, but they are carried as far as Maidstone, and to a considerable distance beyond; the planters preferring the poles which grow upon the hills to those of quicker growth and nearer home.

Part of the woodland in this district is in the hands of the proprietors, and part is let to the tenants who occupy the adjoining farms. When fit to fell it is commonly sold by valuation. After the purchase is made and the leaf is off, the wood is parcelled out among the different workmen employed by the purchaser. The first step is to clear the stocks of the small spray, bushes, &c. These are made up into bavins, bound with two wifts*, and are called winter kiln bavins: they should be six feet long, and two in circumference over the bands; the price of making them is three shillings per hundred, and they sell in the woods for six shillings per hundred. If bushes are wanted, the best are bound up in bundles with one whift, at one shilling and six-pence per load, consisting of fifty bundles; and they sell in the woods from seven to ten shillings per load.

After

* Local term for bands.

After the stocks are cleared, they are cut down and thrown into ranges, wide enough to admit a team to pass to fetch away the different articles. These are cut out as the stocks are felled, and consist of first and second best poles, first and second ordinary poles, use poles, stakes, and binders, thatching rods, austrey rods, hurdle rods, wheel timber, piles, and props. The remainder not fit, or wanted, for these purposes, is thrown into the range, where it remains to employ the woodmen in the Spring.

The best first poles are chesnut, ash, willow, and maple: their length should be eighteen feet; their price varies from thirty to thirty-five shilling per hundred; chesnut poles are dearest, varying in price from fifteen to twenty pounds per thousand in the wood.

The best second poles consist of the same wood as the first, and are only a smaller pole, varying in length from fifteen to sixteen feet. They sell in the wood from twenty to twenty-one shillings per hundred.

The first ordinary poles consist of oak, gascoign, red birch, beech, and hornbeam; the two last very inferior: their length should be from seventeen to eighteen feet; they sell in the wood from twelve to twenty shillings per hundred.

The second ordinary poles, varying in length from fifteen to sixteen feet, sell in the wood from ten to twelve shillings per hundred.

Use poles consist of ash, chesnut, willow, oak, asp, and gascoign, which are too large for hop poles. They are cut at a half-penny each, and sell in the wood from four-pence half-penny to six-pence, according to the size, length, and goodness of the wood. The largest sort are sold by admeasurement, from eight to nine-pence and ten-pence per foot.

Stakes and binders are cut out of hazel, ash, oak, willow, and maple; they are bound up in bundles, twenty-five in each; the price of cutting is three halfpence each, and they sell in the wood from four-pence halfpenny to six-pence per

G bundle;

bundle; the length of a stake should be five feet, of a binder from fifteen to eighteen feet.

Thatching rods are cut out of the same kinds of wood as the stakes and binders, which are not of a proper length for binders, or large enough for stakes. They are bound up in bundles fifty in each; the price of cutting is two-pence per bundle, and they sell in the wood for six-pence. The length of a bundle should be six feet.

Austry rods are smaller than thatching rods cut out of hazel, they are used to bind billet wood for the London market. They are bound up in bundles, one hundred rods in each; the price of cutting is two-pence, and they sell at six-pence per bundle in the wood: their length is five feet.

Hurdle rods are cut to make hurdle gates for folding sheep; they are cut out of the same kind of wood as binders, indeed they are only a small binder from ten to fourteen feet long. They are bound up in bundles fifty in each, the price of cutting is two-pence, and they sell in the wood at six-pence per bundle.

Wheel timber is cut out of large beech of two or three falls growth, it is used for fellics of wheels, it should not be less than seven inches diameter at the small end. It is cut down for one penny for every length of three feet, and sold in the wood from seven-pence to eight-pence per length; if sold by admeasurement, at the same price per foot. If smaller, it is cut out for axle-trees, plough cheps, and wrests. Axle trees should be seven feet long, and six and a half inches in diameter at the small end; they are cut for one penny each, and sell in the wood for ten-pence; plough cheps should be five feet long, and five inches diameter at the small end: they are cut for one halfpenny each, and sell in the wood for six-pence.

Plough wrests should be four feet long and five inches diameter at the small end: they are cut for a halfpenny each, and sell in the wood for two-pence.

Piles

Piles are cut out of beech and hornbeam ; they are used to prevent the tide from washing away the chalk at the footing of the sea walls, and are cut of different lengths.

	s.	d.		£.	s.	d.	
12 feet long	1	1½	} each.	6 feet long	1	15 0	} per hundred.
11 ———	1	0½		5 ———	1	5 0	
10 ———	0	11½		4 ———	0	19 0	
9 ———	0	10		3 ———	0	12 0	
8 ———	0	8½					
7 ———	0	7					

N. B. The above is the price of the piles delivered at the place where they are to be used. Land carriage is five shillings per hundred for six feet piles, four shillings for five feet, three shillings for four feet, and two shillings for three feet piles. If they go by water carriage the price is the same.

Props, which are used in the coal mines at Newcastle, are cut out of oak and birch ; they should be cut six feet four or five inches long, and be two and a half inches diameter at the small end : the price of cutting is a halfpenny, and they sell in the woods at two pence each.

These are the chief, if not all the articles which are cut during the Winter. In the Spring, what remains in the ranges is made up, part into Summer kiln bavins, which are made of the smallest wood, and bound with two withes, and should be six feet long. The price of making is three shillings per hundred, and they sell in the wood from eight to nine shillings per hundred. Part is made into household bavins, being the best faggots which are made; they should be six feet long, and two feet over the band ; the price is also three shillings per hundred, and they sell in the woods from twelve to fourteen shillings per hundred. The remainder is cut out into cord wood ; each stick should be three and a half feet long, the length of the cord fourteen feet, and it should be stacked three feet high ; the price of cutting and stacking is

two shillings per cord, and the cord sells in the wood from twelve to sixteen shillings.

It has been found by those who have been very attentive to the management of their woodlands, that wood, like every thing else, decays, and produces fewer poles every fall, unless they are replenished. This is best done in the Autumn after the wood is felled. The plants, whether chesnuts, ash or willow, should be taken up from the nursery, with as much earth to their roots as can be conveniently done, and their small roots should be cut as little as possible. Strong plants taken up in this manner, and planted with care, seldom fail: they should be looked over the next Spring, to fasten those which the frost may have loosened.

The tithe of woodlands was, a few years ago, at two shillings in the pound, but now varies from two and three-pence, to two and six pence and to three shillings. Many clergymen are of opinion that the woods ought not only to be cut down, but to be made up into the different articles for sale, but this is not true; if the clergyman and purchaser should disagree, all that the latter has to do, is to sever every tenth perch and leave it: the expence of doing this is found to be about three pence in the pound. If wood therefore is sold at a fair valuation, it appears unreasonable for any clergyman to demand more than two and three pence in the pound.*

The flat rich Lands in the vicinity of FAVERSHAM,
SANDWICH, and DEAL.

The land meant to be described under this head, is that which lies nearly on a level, and within a few miles of the towns abovementioned. It is extremely fertile, and under the most excellent system of management; it is almost entirely arable, and being without that variation of culture prevalent in

* Copy of a paper presented to the Kent Agricultural Society by Rd. Tilden, Esq. of Milsted near Sittingbourne.

in most other parts of the county, it was thought necessary to describe it under a separate head.

S O I L.

It consists of two sorts, namely, rich sandy loam, with a greater or lesser mixture of sand, and stiff clay, some of which in the lower parts are rather wet. The surface of the first is seven or eight inches deep, with a subsoil, varying in depth, of strong loam, clay, or chalk; this soil is always ploughed with four horses, is very dry and kindly land to work at all seasons, no ridges or water furrows are required; it produces great crops of wheat, beans, barley, oats, and peas, and sometimes canary and radish seeds.

The stiff wet clay is that which has a strong clay bottom or any substance that holds water. It lies low, is subject to land springs, and of a close texture, so as not to admit a quick filtration of the water.

This, when well drained and kept clean from weeds, and otherwise well managed, in a favorable season, is excellent land, and produces good crops of wheat, beans, and canary; but is generally very expensive to keep in good order.

S Y S T E M.

The dry loamy soils are cultivated in the round tilth system of East-Kent, namely,

Barley,

Beans,

Wheat.

A few oats are sown instead of barley, and peas instead of beans; and sometimes a crop of canary is sown on the bean stubble instead of wheat.

Barley is sown or drilled on the third ploughing at the end of April and beginning of May, the quantity of seed sown, and other management the same as before described on the loamy soils of East-Kent. When the land is manured

the dung is generally laid upon the barley stubble for beans, at the rate of forty or fifty cart loads per acre; when ploughed the beans are drilled, or dropped by hand, from three to four bushels per acre; the crop is frequently horse and hand hoed three times each, and always kept perfectly clean from weeds. It is harvested as in other parts; after which the land is ploughed once entirely flat, and sown with wheat chiefly in the month of November. The crop of wheat is carefully hand weeded in the summer months, and the harvest usually commences a few days later than in the Isles of Shepey and Thanet, or about the first week in August.

The stiff wet clay of the lower parts of this district is much of it under a two course system of beans and wheat alternately. The beans are always put in rows twenty inches apart; they are frequently planted by women dropping them by hand, while a man follows and covers them with the loose mould which he cuts and draws from the next furrow, with an instrument called a planting hoc. Wheat is sown broad cast before the rainy season commences in the Autumn, and this land is laid in flat ridges of half a rod or a rod in width; after sowing, the ridge furrows are opened to let off the water in winter.

The best of these stiff wet lands are often sown with canary instead of wheat, and garden beans are planted instead of common ticks; these are the windsor and toker beans, which are dropped by hand, at the rate of six bushels per acre, in rows twenty inches apart; they sometimes produce very abundant crops, and great profit; at other times, when too much land is planted, and the crop happens to be indifferent, they sell at low prices, and turn to a very bad account, and at such times are given to fattening bullocks, sheep, and pigs. Both the bean and canary crops are kept clean by repeated hocings. The canary is cut in September, at the expence of six or seven shillings per acre, and is left a great while in the field, in lumps of half a sheaf at a place, before

it is fit to bind and carry to the barn. The expence of thrashing this seed is six or seven shillings per quarter.

The chaff of it is the best horse food of the kind that comes out of the barns. The live stock, price of labour, and implements of husbandry are the same as in other parts of East-Kent. There are no woodlands, nor any waste or commonable lands in these parts of the county.

Rectorial tithe is almost always paid in kind, and vicarial generally compounded for by the year. This tract of land having been under a constant course of good management, for a great number of years, there does not appear to have been any particular improvements made, nor does there seem room to expect much to be made in future.

In the vicinity of Sandwich there are a great many orchards, which some years produce large quantities of excellent apples; some of which go to the London market, but the principal part is sent by the coal vessels to Sunderland and Newcastle.

The farmers usually sell their orchards by the lump to fruit-crers, who gather, sort, and pack them, in baskets, or old sugar hogsheads, for exportation.

The hop grounds of the parishes between Sandwich and Canterbury, are those which produce the fine East-Kent hops, so much sought after by the London brewers. For their culture and management see the Canterbury Plantation.

The size of farms varies from fifty to three hundred acres and some few more, but the greater number are from one to two hundred.

Leases are granted from seven to twenty-one years.

The usual covenants are for the landlord to allow for land-tax and quit-rent, and to repair all buildings, gates, and timber fences. The tenant to repair all hedge and ditch fences, and to fetch materials for repairs within a limited distance. Timber reserved to the landlord, hedge bushes to the tenant, who repairs glass windows, and finds straw for thatching, with beer to workmen. The tenant covenants to leave a certain quan-

tity of bean stubble, the last year of his term, for a wheat tilth, and sometimes to horse and hand hoe the beans.

The Hop Grounds of CANTERBURY and MAIDSTONE.

The hop plantations in the vicinity of those places, being the principal ones of the county, a description of them may suffice for the whole; but as the soil and sort of hops are very different in the two districts, it may be necessary to describe them separately: and first,

CANTERBURY.

The plantations called the City grounds, are those surrounding the city, to the distance of two or three miles, and contain between two and three thousand acres.

The hops growing there and in East Kent are of a very fine rich quality, and if well managed, are of a good colour. They are highly esteemed by the London brewers for their great strength, doing more execution in the copper, than those of any other district.

S O I L.

The best of the hop plantations of this district, are those which have a good deep rich loamy surface, with a deep subsoil of loamy brick earth: this kind of land forms the principal part of the plantations of East Kent; there are however some good grounds, where the surface is very flinty, and some of a gravelly nature, but those are very inferior.

S Y S T E M.

When a piece of ground is intended to be planted, the first thing is to plough the land as deep as possible, early in October, and to harrow it level; it is then meted each way, with

with a four rod chain, placing pieces of reed or stick at every tenth link, to mark the place of the hills ; which makes 1000 per acre. This is the general method ; but some few grounds are planted eight, and some twelve, hundred per acre ; some are planted wider one way than the other, in order to admit ploughing between the hills instead of digging ; but this practice, although it has been tried many years, does not seem to encrease, on account of the difficulty of digging along the the rows where the plough cannot go ; that part being much trodden with the horses in ploughing, digs so much the worse, that an extra expence is incurred, which in some measure defeats the œconomy of the plan. When the hills are marked out, holes are dug about the size of a gallon, which are filled with fine mould, and the nursery plants placed in them.

Some put three plants, others two, and some only one good one to each hole. If the land is planted with cuttings instead of nursery plants, the holes are dug in the Spring as soon as cutting time commences ; some fine mould is provided to fill up the holes, in which are placed four or five cuttings, each about three or four inches in length ; they are covered about an inch deep with fine mould, and pressed down close with the hand. When the land is planted with cuttings, no sticks are required ; but if nursery plants are used, they require sticks or small poles, six or seven feet high the first year : In both cases the land is kept clean during the Summer by horse and hand hocking ; the next Winter dug with a spade, and early in the Spring the old binds are cut off smooth about an inch below the surface, a little fine mould is then drawn over the crown of the hills. As soon as the young shoots appear, so that the hills may be seen, they are stuck with small poles from seven to ten feet long, in proportion to the length it is expected the bind will run ; these poles are called seconds, and are generally bought in the woods, at from five to eight shillings per hundred, and three of them are placed to each hill. As soon as the bind gets about two feet in length women are employed to tye them

H

to

to the poles. The land is kept clean, during the Summer, by horse and hand hoeing, as before mentioned. The proper time for gathering them is known by the leaf of the hop rubbing freely off the strig, and the seed turning brown. They are picked in baskets, containing five bushels each, and are carried to the oast in bags, at noon and evening, for drying. Great care and skill is necessary in this branch of the business; the smallest neglect or ignorance in the management of the fires will spoil the hops, and occasion great loss to the planter. When dried and sufficiently cool to get a little tough so as not to crumble to powder, they are put into bags or pockets; the former containing two hundred weight and a half, and the latter a hundred and one quarter: they are then trodden very close, and weighed by the exciseman.

The second year after planting, full size poles from fifteen to twenty feet in length, according to the strength of the land, (which cost from sixteen to thirty-six shillings per hundred) are placed to the hills instead of the seconds, which are removed to younger grounds. Here great care is necessary not to overpole, for by that means young grounds are often much weakened; and it is equally so not to over-dung them, as that will make them mouldy.

Fifty cart loads of well rotted farm-yard dung and mould, once in three years, are generally esteemed sufficient for an acre of land.

Implements and Appendages to the Hop Grounds.

Every hop plantation of four or five acres requires an oast, about sixteen feet square, which, built substantially with the requisite stowage room, costs from one hundred and fifty to two hundred pounds.

This is furnished with a set of picking baskets, about twelve in number, which cost about five shillings and six-pence each. Also a good scale beam, with weights and scales, which together cost about five pounds.

A

shim made with a frame like a wheel-barrow is esteemed the best sort ; it costs about two guineas. This implement is a very useful and convenient one likewise for tearing up weeds on Summer fallows.

A harrow to be drawn by one horse, with a small wheel in front, to go round at the ends of the plantation, and a pair of handles to be holden by the man who follows it, in order to prevent it from bruising the binds. This implement costs about one pound fifteen shillings.

A large iron peeler to make holes in the land for the poles, costs six or seven shillings. A hop dog to wrench up the poles costs five shillings.

PRODUCTIONS.

There can be no certain report made of the produce of the plantations, because, in some years, the growth of this plant is less than two hundred weight per acre, and in others it is fourteen or fifteen ; the average may be seven or eight.

PRICE OF LABOUR.

	£.	s.	d.
Labour, per day, — — — —	0	1	6
Digging, per acre, — — — 15s. to	0	18	0
Cutting, per acre, — — — —	0	5	0
Poling, — — — — —	0	10	0
Sharpening old poles, — — — —	0	2	0
Tying, — — — — —	0	10	0
Crowning, a shovel full of mould to every hill, when cleansed of superfluous bine,	0	1	6
Half hilling, — — — — —	0	3	0
Whole hilling, or second operation, — — — —	0	2	6
Summer hoeing, per acre, — — — —	0	5	0
Picking by the basket of five bushels, 7d. to	0	2	0
Drying, per week, with a quart of strong beer per day, — — — —	1	1	0

H 2

Composition

			£.	s.	d.
Composition for tithe, per acre,	10s. to	1	5	0	
Bagging, per bag,	—	—	0	1	0
— per pocket,	—	—	0	0	9
Sharpening new poles, per hundred,	—	—	0	0	6
Shaving	—	—	0	1	6
Drawing new poles into the ground, per hund.	—	—	0	3	0
Stripping poles of the bind, per acre,	—	—	0	2	6
Opening the hills, per acre,	—	—	0	5	0
Stacking poles, per acre	—	—	0	2	6

What Improvements have been made.

The management of the hop grounds is much the same as it has been for a long series of years, and no improvement of consequence has taken place; one, however, in the mode of drying, ought to be mentioned, namely, the use of a small quantity of brimstone on the fire when the hops are first placed on the kiln. This suffocates the great number of insects, which are frequently seen crawling on the hops, and occasions a speedy evaporation of the superfluous moisture which otherwise usually hangs for a long time after they first come to the fire. By the use of this mineral the hops come off the oast much brighter in colour, and it is most certainly a great improvement in the art of drying hops.

What Improvements may be made

There does not appear any alteration necessary in the culture of hops; but it would be a great encouragement to the plantation if some permanent composition was fixed by the legislature in lieu of the payment of the tithe in kind; for although there are but few instances of the tithe being taken in kind, yet as it hangs over the heads of the planters, it prevents many persons from engaging in the business.

MAIDSTONE

MAIDSTONE PLANTATION.

The hop plantation of this town, and its vicinity, extends through the several parishes along the shelf of land which lies below the chalk hills, on the borders of the weald of Kent. This plantation in some years grows great crops of hops, but the quality of them is much inferior to those of Canterbury and East-Kent.

S O I L.

The subsoil is a hard stone commonly called Kentish rag, which makes very good lime. The surface soil, where the hops are planted, is of different kinds of stone shatter; that is, having a greater or lesser mixture of small pieces of stone and sand.

S Y S T E M.

The management of the plantations of this district and the price of labour is nearly the same as in the Canterbury plantations; it is not necessary, therefore, to repeat it.

T I T H E.

A composition for the tithe of hops is paid from five to fifteen shillings per acre.

H O P P O L E S.

The price of hop poles is from fifteen to forty-two shillings per hundred.

ORCHARDS, CHERRY GARDENS, and FILBERT PLANTATIONS.

In the neighbourhood of Maidstone, are a great number of small fields, of from one to ten acres, and somewhat more, planted with fruit of different kinds, for which the rocky soil of the neighbourhood seems particularly adapted. The easy water carriage to the metropolis, from the Medway up the Thames,

Thames, renders the growth of fruit a very profitable article of husbandry. The best method known here for raising orchards of apples and cherries, and plantations of filberts, is to plant them among hops, by which they very soon come to perfection; the constant culture of the land for the hops, with the warmth and shelter they afford the young trees, causes them to grow with great luxuriance. It is a very common practice to plant hops, apples, cherries, and filberts, all together. Eight hundred hop hills, two hundred filberts, and forty apple and cherry trees per acre. The hops stand about twelve, and the filberts about thirty years, by which time the apples and cherries require the whole land.

Sometimes apples and cherries are planted in alternate rows, with two rows of filberts between each of them.

There are some plantations of filberts raised among hops, without any other trees.

P L A N T I N G.

The method of planting apple and cherry trees, is to dig holes about two feet square, and two spits deep, taking out the rocks, and turning down the surface soil, on which the young tree is placed, and the remainder of the earth is trodden down close about the roots; they are supported by stakes, untill they get sufficient strength not to be hurt by gales of wind. A composition of lime and night soil, is with a brush painted on the stems of the young trees, which is said to promote the growth of them exceedingly.

The favourite sorts of apples for cyder, are the golden rennet, sharp russet, golden mundy, kernel permain, and the stire apple: for domestic uses, the lemon pippen, or quince apple, farley pippen, royal russet, ribstone pippen, holland pippen, pigsnout, walling, loans permain, nonpariel, golden pippen, french pippen, kentish pippen, and golden nob.

The cyder fruit generally hangs on the trees until the twentieth of October, and is then gathered and laid in heaps
under

under cover, the early sorts a month, and the latter ones from one to three months, to ripen ; it is then ground and pressed, and the juice put up into casks. In plentiful years, cyder fruit sells for fourteen pence, and in scarce years up to two shillings per bushel.

Mr. Stone, of Maidstone, is a cyder maker of great repute, and in a very extensive line of business ; being called upon in this survey, he, with great liberality, offered to communicate any information, for the benefit of society. His warehouse, mill, press, and vaults, were contrived by himself, many years ago, with great ingenuity, and are exceedingly convenient.

From many years experience, he finds no particular advantage in watching the fermentation of cyder, in order to rack it at any exact time ; a method considered of great consequence in Herefordshire, as mentioned by Mr. Marshall, in his Rural OEconomy of that county.

Mr. Stone mixes all sorts of apples together, and makes excellent cyder. Golden pippens alone make very fine cyder, if well managed, but great skill and care are required.

The sorts of apples for domestic uses are sold to fruiterers, who send them to London by the hoys, and to the north of England by the coal vessels.

Fruit orchards are considered as the most valuable estates. Tithe is very rarely paid in kind ; but in lieu of it, a composition of two shillings per pound, on the price of the fruit.

C H E R R I E S.

The site preferred for this fruit is where there is a deep surface of loam upon the rock. If grown by themselves, they are planted from twenty to thirty feet distant, and are put somewhat deeper in the earth than apples ; in other respects the management is the same. The sorts are the black-heart, white-heart, flemish, or early kentish, courone, hertfordshire-black, wild-black, and red cherries.

They are usually sold to the higlers, who retail them on the sea-coast of Kent by the sieve, or basket, containing forty-eight pounds each; or they are sent to London by water, and consigned to fruit factors.

Tithe is paid by composition of two shillings per pound on the sale.

Cherry gardens while they are in full bearing, which is seldom more than thirty years, are more profitable than orchards; but after that time the orchards produce the most money.

FILBERTS.

There are several hundred acres in the vicinity of Maidstone. The soil best adapted for them is the stone shattery sandy loam, of a quality somewhat inferior. It is a disadvantage for the trees to grow with great luxuriance, as they bear most nuts when but moderately strong; if they are planted among hops, without apples or cherries, they are put about twelve feet apart; when the hops are dug up the filbert plantation is kept clean by repeated digging and hoeing, and great skill is necessary in pruning to make them bear well. A small part of the produce of this plantation is sold to the higlers, who retail them in different parts of the county; but the principal part is conveyed by water to London, and there consigned to factors, who sell them by the hundred of an hundred and four pounds, from sixteen to forty-two shillings per hundred, in proportion to the crop and demand.

Tithe is compounded for by the year.

ISLE OF SHEPEY.

The Isle of Shepey is separated from the rest of the county of Kent by an arm of the sea, called the Swale, navigable for ships of 200 tons burthen. It is said to have derived its name from the number of sheep that were continually feeding on it.

It is about eleven miles in length, and eight at its greatest breadth. It contains the parishes of

1. Minster, with the Ville of Sheerness,
2. Queenborough, which sends two members to parliament,
3. East-Church,
4. Warden,
5. Leysdown,
6. Elmley, and its Isle,
7. Harty, and its Isle.

The land of this island rises from the shores of the rivers, on the south east and west bounds of it, towards its center ; but on the north side, it seems by the height of its cliffs, to have once extended much further. The cliffs are in length about six miles, and gradually decline at each end ; the more elevated parts containing about two thirds as far as they extend, and they are at the very highest of them about Minster, not less than ninety feet, consisting of clay, and being washed at their basis by the tides which beat against them, more especially when driven by strong north east winds, they are continually wasting and falling down upon the shore ; and so great is the loss of land at the highest parts, that sometimes near an acre has sunk down in one mass from the height upon the sea shore below. Some farms have lost many acres within these few years. About four fifths of this island consists of grass land, of two sorts, namely, marsh land and upland pasture, the former has a very liberal share of rich and good fatting land ; but great part of the latter is but very poor breeding land, that will hardly support an ewe and an half per acre ; most of the arable land is exceedingly fertile, in wheat and beans, especially towards the north side, in the parishes of Minster and East Church. The enclosures on the hills are small, and are surrounded with thick hedge rows of elm ; and the whole face of the country is exceedingly pleasant in fine weather, being interspersed with much small hill and dale, and frequent houses and cottages. The roads throughout the island are

very good all the year, owing to the great plenty of gravel and beach pits, and but little wear in it, the prospects are very pleasing and extensive on every side.

There is hardly any coppice wood throughout the whole of it. There are some small furze grounds, and bushy shaws, on the hill, which afford shelter for many hares, and a few pheasants and partridges. Good fresh water is very scarce in most parts of the island; between Eastchurch and Minster there are a few springs, and notwithstanding they rise very near the sea, the water is perfectly good and fresh. The air is very thick, and much subject to noxious vapour, arising from the vast quantity of marshes in and near it, which makes it very unwholesome, insomuch that few people of substance live in it, especially in the low and marshy parts, where the inhabitants are very few indeed, and consist chiefly of lookers.

The garrison and dock of Sheerness, its environs, and town of Queenborough, the reader however will except from this observation, where there are many gentlemen of property and substance constantly resident.

The cliffs on the north side of this island are composed of clay, and are continually wasting and falling down upon the shore, as is already mentioned. They belong to the three manors of Minster, Shurland, and Warden, the owners of which, let them out to the proprietors of the copperas works, who employ the neighbouring poor to collect the pyrites, or copperas stones from the shore, which they deposit in heaps, on the cliff, at the rate of one shilling per bushel, for their labour, until a sufficient quantity is procured to load a vessel to take it away. The liberty of collecting the copperas on the sea shore, is let by the lords of the manors for sixty pounds per annum.

SOIL.

S O I L.

Almost the whole of the isle of Shepey is a deep strong stiff clay, some parts are so very sticky in the Winter time, that the plough wheels get loaded with dirt in one mass, so as to form the shape of a grindstone, and are often overturned with the great weight of mould, collected unequally upon the wheels, on which account foot ploughs are sometimes used.

The horses shoes are frequently torn off, by the fore foot sticking in the soil until the hinder foot strikes its shoe against the heel of the fore one, so as to tear off the shoe. The best time to plough these soils, it is said, is when they are thoroughly wet. Some of the upper parts of the island have a few gravelly fields, but those are very wet in winter, and are rather stiff. The chief part of the upland pasture is a stiff clay, covered with ant hills, is very wet in Winter, and subject to burn in a dry Summer, and split open a great depth. The soil of the marshes is also a stiff clay underneath; it is the original sediment of the sea: the richness of the soil from the land having been thickly covered with sheep, for a long series of years, the surface, for an inch or two in thickness, is a black rich vegetable mould.

S Y S T E M.

The general method of cultivating the arable lands of the isle of Shepey, is to grow beans and wheat alternately; and when the land gets foul, or they think it wants rest, they substitute a fallow for the bean crop, which is done once in six or eight years. On the gravelly parts, they sow a few oats, and some barley, but in very small quantities, especially the latter. A few turnips are sown, but from the land holding the wet so very late in the Spring, they are of little use to the grazier. If the cabbage culture is beneficial in any situation, it must be a great acquisition in this island as a substitute for the turnips, and the soil is well known to be particularly fa-

avourable to their growth. Much clover is sown with great success, the lay is the farmer's favourite tilth for the wheat. The land is ploughed in the Winter for beans, with four horses, which plough about an acre in a day with much difficulty. The beans are drilled in rows about twenty inches apart, as soon as the land will admit of it in the Spring; they are horse hoed twice, and hoed and weeded by hand once. The beans are harvested as in other parts of the county, and the stubbles are ploughed only once, and then sown with wheat in October: the land is laid in flat ridges with open furrows, to carry away the water in Winter. The harvest usually commences as early as any part of Kent. The wheat which this island produces, is generally the best that goes to London market; it frequently weighs sixty-four pounds the Winchester bushel, and from its early harvest, is of a fine colour, and the bran of course, is very thin. The beans also a very good sample; both the crops of wheat and beans are very large when the land is in good order.

The clover that is sown in this island is mown twice; the first time for hay, and the second for seed: from the earliness of the soil, the hay is got off soon enough for the second cutting to come in good time for the seed crop. This stiff soil with a good harvest season, produces frequently great crops of very excellent seed.

The upland pasture is wholly employed in breeding lambs, or feeding young lean sheep. These fields are generally so poor as to keep only one or two breeding ewes per acre, or two or three tegs. The ewes are generally put to the ram the sixteenth of November, and the lambs when weaned in August, are sent out of the inland to be kept by farmers, on stubbles and turnips, and are returned about the middle of April; the usual charge has been about two shillings per score on stubble, and two and six pence on turnips. When they return home, they are placed on the poorest of the grass land, for the Summer, at the end of which the ewe tegs are removed

moved to the breeding grounds, and the wether tegs remain as lean sheep another year, they not being fattened in this island until they are three years old, except in some particular cases.

The inferior parts of the marsh land are used in the same way ; but the best fats a great number of sheep, and many head of cattle. The sheep are put to the fatting grounds in the Winter, and are sent to Smithfield the following Autumn, they are there sold by salesmen, whose commission, together with the expences, of droving, turnpikes &c. amount to about eleven pence per head from the ferry. The salt water sometimes breaks over the walls in these marshes, and does infinite mischief to the land, and the grass does not recover for many years.

L I V E S T O C K.

Sheep in the Isle of Shepey are of the Romney Marsh breed, and what are called in Smithfield, true Kents. The soil being much inferior to Romney Marsh, the sheep are somewhat smaller, and from the same cause, their wool is lighter and finer. Some graziers get rams from Romney Marsh, others prefer their own sort, and but very few, if any, pay that attention which it is their interest to do, to the wool of the rams they use. The fat wethers at three years old, weigh from twenty to twenty-four pounds per quarter.

C A T T L E.

The cattle of Shepey are almost wholly of the Welch sort, bought by the graziers out of the droves that come from the counties of Carnarvon, Denbighshire, & Isle of Anglesea, with a few from South Wales. Many Welch calves are brought in to live among the sheep in the marshes, to take off the rough grass, in which they are of great service to the land, by preventing the grass from running into coarse spots.

These

These calves, at the latter part of the Summer, are put in to some of the best of the land, with plenty of grass, where they get full of flesh, and are supported through the Winter with good grasses and hay, foddered out in the marshes: they are usually sold to the butchers about June or July, and weigh from twenty-two to twenty-six score; there is scarcely an instance where they are fatted the first year, that is, at two years old. The few runts that are fed in the island, reach about thirty score.

H O R S E S.

The horses for the plough are bred principally from a sort that has been in the isle time out of mind. The mares are covered by stallions that come over from other parts of the county in the season; they are of a size somewhat smaller than those of other parts of Kent, where the land ploughs much lighter. Whether smaller horses are found to answer best here, it is not easy to determine; but it is natural to suppose, that such very stiff heavy land must require strong horses; and it seems therefore that the breed of them here is become small, from neglect; and it would perhaps be better if more attention was paid to the breeding and rearing the colts in these parts.

H O G S.

The live stock of this class, as at most other places, are mixtures of many different sorts, between the natives with the large Berkshire and small Chinese. Little attention is paid to this animal, though the breed might doubtless be very much improved, with proper care.

IMPLEMENTS OF HUSBANDRY.

There are two sorts of ploughs made use of here, the Kentish turn wrest of a large size with a long *tail*, which costs, with all tackle complete, about six pounds. This is

the plough that is principally used; the other is a foot plough, which is used in Winter on account of the stickiness of the land, when the wheel plough will not go. The harrows are the same as in other parts of East-Kent, and cost here twenty-five shillings each.

Waggons are made here to contain a chaldron and half, and cost about twenty-seven pounds.

Carts are made of two sizes, one sort contains about thirty bushels, and costs seven pounds; the other twenty bushels, and costs about five pounds ten shillings.

There are but few orchards, nor any hop grounds in the Island, and no commonable or waste lands. The gardens between Minster and East-Church contain several acres, which supply Queenborough and Sheerness markets with vegetables, which are very excellent, and particularly every species of cabbage; but the demand for those articles is so very great, that the island does not produce one half that is consumed, and the deficiency is made good by gardeners on the other side of the water, who attend Sheerness market chiefly on a Saturday.

PRICE OF LABOUR.

	<i>s. d.</i>	<i>s. d.</i>
Day Labourer, per day, ———	—	2 0
Carpenter, ditto, and 3d. for lowance, —	—	2 6
Spreading dung, per hundred cart loads, 3 0 to	—	4 6
Thrashing wheat, per quarter, ———	—	2 6
———— oats, ———	—	1 0
———— beans, — — —	—	1 0
Hoeing beans, per acre, ———	3 6 to	5 0
———— turnips, — — —	—	7 0
Making hedges, per rod, ———	—	0 3
Hedge ditch, ditto, ———	—	0 3
Cleaning marsh ditches, ———	1 0 to	1 3
Cutting ant hills, per acre, —	5 0 to	11 0
		Carting

	s. d.	s. d.
Carting them together, per acre, —	5 0	to 11 0
Value of ploughing an acre of land,	10 0	to 12 0
Mowing thistles, per acre, —	0 1½	to 0 6
Reaping wheat, —	7 0	to 12 0
— beans, — — —	7 0	to 10 0
Mowing oats, — — —	2 0	to 2 6
— clover, — — —	1 8	to 2 6
— grass, — — —	2 6	to 3 6
	Gs.	Gs.
Waggoner's wages by the year, —	10	to 13
Second Ploughman — — —	9	to 10
Third ditto — — —	8	to 9
Waggoner's Mate — — —	8	to 10
Second Boy — — —	4	to 7
Third ditto — — —	3	to 4
Bailiff — — —	11	to 12
Dairy Maid — — —	4	to 5
Cook — — —	3	to 4
	d.	s. d.
Women, per day — — —	10	to 1 0
Girls — — —	6	to 1 0
Boys — — —	0	6

Poor Rates of MINSTER Parish.

Per pound rent three shillings, and East-Church one shilling and nine-pence.

C O V E N A N T S.

Leases of twenty-one years are usually granted. Landlords covenant to repair buildings, gates, stiles, and dry fences; and tenants to repair and support all hedge and ditch fences; they have liberty to cultivate as they please; but are restricted from breaking up old grass lands, and are bound to

leave a certain portion of Summer fallow, at the end of their term, with all the manure of the last year.

What Improvements have been made.

The only improvement of any consequence in the Isle of Shepey, is that of cutting the ant hills, which were, and are still in many places exceedingly numerous; many are so large as to contain half a cart load in a hill, and are so thick at some places, that a man may step across a whole field without getting off them. Much of this work has been done within these few years, where leases are granted. The method is to turn them over with a sharp tool, when soft in the Winter, and then cast them together in heaps, where they lie for two or three years, being often turned over, and when well rotten, and reduced to fine mould, they are carried out and spread on the land. Where there is any dung to be had in the marshes, from hay stacks being foddered out, or if there is any farm yard at hand, it is often mixed among this mould, and forms a good compost for the grass land.

There are some graziers, however, here, who positively assert, that the cutting these hills does harm to the land, and declare, that they would not suffer the hills to be cut from their land, if it could be done gratis.

Those who have done it, in general, seem very well satisfied, and think it (as it really seems to be) a very great improvement.

Much of the lands have been greatly improved by surface draining, and some small tracts have been under-drained to a very great advantage.

And on the arable lands, some great improvements have been made, by manuring the land with cockle shells, of which there are immense quantities thrown up by the sea along the shore.

What improvements may be made.

If the cutting ant hills beforementioned, is an improvement, of which to the by-stander there can be no doubt, there remains a great scope for improvements on that head, in the island of Shepey.

There are, at some places, great quantities of thistles and rushes in the marsh lands, which, if they could be destroyed, might be counted among the number of improvements.

Some persons contend that rushes cannot be destroyed, but it is well known, that it has been done at other places, and if so, why not here? Others say, that rushes, in a deep snow, are very useful for cattle to feed upon; but a good (or even a bad) hay-stack must surely be much better.

In the article of manure, the sea furnishes an inexhaustible supply of sand and cockle shells, that greatly improve the arable lands. The crops of fine corn which the soil of this island generally produces, with its vicinity to the first market in the world, is such an inducement to exertions of this kind, that it is wonderful there is so much land here in a neglected state. In the upper parts, there are several fields of poor gravelly land, partly covered with furze, bushes, and rubbish, which, by the supply of manure from the sea, might, at a small expence, be made extremely fertile. They would not, most certainly, have been in their present state, had they been in the hands of the inhabitants of the neighbouring Isle of Thanet.

To obtain and preserve good fresh water for the cattle, should be the grand effort of every grazier, which however is much neglected. Many of the salt-water fleets which contain several acres, might, by a proper method and attention, in a few years become reservoirs of fine fresh water. From the elevation of the island, the floods must fall heavy, and favourable for this purpose. Cleansing and deepening of the fresh ditches, should be more attended to.

Not-

Notwithstanding great wages are given, there are but few labourers to be got; this inconvenience evidently arises from the bad accommodations, and want of cottages.

T I T H E S.

The rectorial tithe is usually paid in kind, and the vicarial compounded for. There have been some disagreements respecting the vicarial tithes in the parish of Minster, which is now settled by paying two shillings per pound on their rent, and an addition to that of six pence per acre for uplands, nine pence for marsh lands, and one shilling per acre for mowing meadows, by which an acre of upland that lets for five shillings per acre, pays one shilling to the lay impropriator; an acre of marsh land that lets for ten shillings, pays one shilling and nine pence, and an acre of meadow, that lets for twenty shillings, pays three shillings per acre, or reduced to a fraction,

The poor land pays	-	$\frac{6}{40}$	} of its rent, in lieu of vicarial tithes.
The middling	-	$\frac{7}{40}$	
The best	-	$\frac{6}{40}$	

M A N U R E.

Cockle shells are laid thirty cart loads per acre, they make the stiff clays work much better, and greatly improve the soil.

Chalk is brought from the banks of the Medway and Thames, and is excellent manure for the clays of this isle. Town dung from Sheerness improves all soils, and lime is of great service to the gravelly lands on the hill.

P O O R.

The erection of a house of Industry, with the incorporation of the seven parishes, under Mr. Gilbert's act of parliament, would probably be found of great advantage to the inhabitants and poor of this island.

The Upland Farms of WEST KENT.

The western part of this county, consists of a great variety of soils and systems of management. It is much more inclosed than the eastern part, and produces more timber and underwood.

The best cultivated is the north side of the district, from Rainham to Dartford, a tract of five or six miles in breadth. Parallel to this, is a space of the like breadth, of exceeding cold stiff flinty clay, which is generally ploughed with six horses; this is the flat top of the chalk hill, that runs from the sea, by Folkstone, throughout to the county of Surry, near Westerham; the soil of this slip of land is nearly alike, and is but of small value, on account of the great expence of cultivation.

It is the highest land in the county, and is from thence, by some called the Hog's Back of Kent.

Between this hill, and the borders of the Weald, and county of Surry, is an inclosed country, with much gentle hill and dale, the hills shelving in almost every direction, with several varieties of the ragstone soils. This part produces great quantities of hops and fruit, with some corn and grass, also timber and underwood, and has many pieces of common and waste land.

The upper part or west end of this district, is also much inclosed with many coppices of timber and underwood; great part of the latter goes to the metropolis in different kinds of faggots. The corn and hay that are not consumed in the neighbourhood, go likewise for the most part to London.

In the close country about Hayes and Bromley, and from thence towards Tunbridge, farms run from one to two hundred acres, and on the hill, some from four to eight hundred.

The

S O I L.

The varieties of soil in the western part are, 1. Chalk, 2. Ham, 3. Clay, 4. Gravel, 5. Sand, 6. Hassock, 7. Pin-
8. Coomb, 9. Hazel Mould.

The chalky soils are found on the sides of hills, and at different places along the borders of the Thames, between Dartford and Rochester; they are from five to seven or eight inches thick, of a loose chalky mould, on a rock chalk bottom. Those of the greatest depth of surface, that are well mixed with a due proportion of manure, are very productive in corn and seeds, and yield great crops of grain.

The loamy soils are found at different places, chiefly in the valleys; this land is of light tillage, and where well managed, is very productive of corn, seeds, and hops, of various depths.

The clay soil is of two sorts. That which lies at the top of a chalk hill, is much mixed with flints, is so very tenacious as to require six strong horses to plough an acre per acre in Winter, and when left unploughed till very dry in Summer, it is almost impossible to get through it with eight horses, and sometimes not at all. This sort is from eight to ten or fourteen inches deep on the rock chalk, at some places a stiff yellow clay between.

The other sort of clay is a cold wet stiff kind, with a small quantity of the rag stone; it is chiefly found in the low grounds of the western part of the county, and both sorts are of little value, being very expensive to cultivate, and except in seasons are very favourable, they produce but poor crops. Sometimes happens, that this land yields a great crop of wheat, which, like a prize in the lottery, tempts the fortunate owner to try his luck again, with great loss of labour and of substance.

The gravelly soils are chiefly found about Dartford and Blackheath, which produce early green peas, turnips, winter tares,

rye, peas, oats, and some wheat. These gravels are from five to eight inches deep, with a subsoil of rocky gravel or sand. There are other soils called gravel, in the lower part of this district, which are a mixture of the small pieces of Kentish rag, sand, and loam, the small particles of stone predominating, give it the title of gravel; this sort produces, when well cultivated, good crops of turnips, oats, clover, and wheat.

The sandy parts of this district are in general very poor, being mostly of the black sort, and are chiefly found on commons and heaths. There are some however in cultivation, which produce excellent turnips and corn.

Hassock, or Stone Shatter.—The surface of this soil, is a mixture of sandy loam, with a great portion of small pieces of light coloured Kentish rag stone, 'tis from six inches to a foot or two deep: the subsoil a solid rock of stone. This land produces great quantities of hops, apples, cherries, filberts, and likewise good turnips, potatoes, seeds, and corn, also much excellent hay on old grass lands.

Pinnock.—This land is very bad to till, and extremely poor; it is a sticky red clay, mixed with small stones, but although it is deemed poor for cultivation of grain, &c. yet it produces very fine chesnut wood; and filberts likewise grow well upon it. This sort of land also lies upon the rock.

The coomby soil of West Kent is an extreme stiff moist clay mixed with stones and flints of different sorts; it ploughs so heavy as always to require six horses, and sometimes when dry and hard, eight are necessary, and even then, frequently not more than half an acre is ploughed in a day. This sort of land is found in the parts about Seal and Wrotham, and is nearly the same as described under the title of clay.

A fine hazel mould is found on the sides of the hills, and in the valleys, at different places throughout the whole of this district.

SYSTEM.

S Y S T E M.

mode of cultivation or rotation of crops, varies so through this part of the county, that it is impossible to en any particular system as the practice of the district ; farmer follows that plan which he thinks will answer ose best, and hardly any two neighbours adopt the ode; and many that set out with a particular system in re driven from it, by an unkindly season, and the un- less of the soil.

chalky lands, when under the plough, are cropped nips, barley, clover, wheat, for one, two, or three and then laid to sainfoin, or rye grass for a few after which the same course again. This is easy and with four horses, the value of ploughing an acre eight shillings.

clay soils where they have settled systems and fa- seasons, which admit the pursuing them, are

ow,	Fallow,	Fallow,
eat,	Wheat,	Wheat,
ver & Trefoil,	Clover & Trefoil,	Oats,
eat,	Oats,	Peas.

hill above Wrotham, &c.

ow,	Wheat,	Clover,	Wheat,	Oats.
-----	--------	---------	--------	-------

frequently sow sainfoin or rye-grass for a few and then break up with a fallow, and pursue the same- gain. It is ploughed with six and sometimes eight.

Value of ploughing, an acre, from twelve to sixteen.

The gravel and sandy soils.

nips,	Turnips,	Turnips,	Turnips,
ey,	Oats,	Barley,	Barley,
er,	Clover,	Clover,	Clover,
eat,	Wheat,	Wheat,	Peas,
		Oats,	Turnips.

land and ploughs light; value of ploughing six or. llings per acre. The

The hassock or stone shatter soils are under one of the following systems,

Turnips,	Turnips,
Barley or Oats,	Barley,
Clover,	Clover,
Wheat,	Wheat,
Peas,	Beans,
	Wheat.

This works kindly, and is ploughed with four horses, for about seven or eight shillings per acre.

Coo.nby and Pinnacky soils are nearly under the same system as the clay already described, and the hazle mould is frequently managed with four courses. Turnips, barley, clover, wheat, with variations of substituting oats for barley, and peas for wheat; and sometimes after wheat and clover lay, a crop of peas is taken.

On the tract of land between the borders of the Thames and the hill, the gravelly soils are often cropped with early peas, which are gathered green for London market; and then turnips the same year, succeeded by oats, clover, and wheat in succession. Sometimes rye and winter tares are sown, fed off with ewes and lambs in the Spring, and then followed by turnips, &c.

The poor chalky land of this part is cultivated as at other places, and sown with sainfoin, great crops of which are produced by the assistance of soot, ashes, &c. from London.

The best land of the valleys, is, much of it, under a system of six courses, namely, turnips, barley, clover, wheat, beans, wheat.

For turnips, on the chalk and other poor soils, the land is ploughed in the Winter, and cross ploughed in a dry time in the Spring, as in other parts of the county already mentioned; and generally manured with farm-yard dung and mould, from hedges and ditches, before the third or fourth time of ploughing, unless manure is carried out for the preceding crop of wheat,

wheat, for without the land is in good heart the poorest sorts, especially, will not produce good turnips. They are fed off with sheep, and the land, if it is stiff, is sown with oats on one ploughing; and if light and kindly for barley, that grain is sown instead of oats, for which the land is sometimes twice ploughed. The clover seed is sown on both crops before the last harrowing, and a great part of the clover is mown for hay, and then fed off the remainder of the Summer; when it is ploughed once and sown with wheat, for which crop a clover-lay is esteemed here, on these soils, as well as in other parts of Kent, the best tilth known.

The stiff red clays and coomby soils, are always Summer, fallowed for wheat, three or four ploughings are given, as time and seasons will allow; but bad Summer fallows are frequently made on such land, notwithstanding every exertion of the husbandman. They are sown as early as opportunity will admit, and the same rule is observed, when cropped with oats or peas; for the cultivator cannot always sow when he wishes, he must therefore do it when he can. When these sorts of land are laid down with seeds, (what the Norfolk farmers call layers) they are sown with rye grass, clover, and trefoil; they continue two or three years, and are then ploughed in the Winter, and made a Summer fallow for wheat, with the same course as before.

The sandy and gravelly soils intended for turnips, are frequently sown with rye, which is fed with sheep, previous to sowing the turnip seed. This may be of great advantage to the sheep, should there be a scarcity of food in the Spring; but it must tend to exhaust the soil, and weaken the turnips, unless the sheep get great part of their food by day on grass land, or other feed, and go to the rye by way of folding the land by night; or if the land is to be manured for turnips, there is no fear of a crop, in that case, the sowing of rye may be excellent management, and, indeed, every plan is excellent, on these soils, that tends to secure good crops

L of

of turnips, for that is the very essence and spirit of good husbandry.

Not only the manure of the sheep in feeding off the turnips on these loose lands, but the treading of their feet is of great service.

The barley and oats are sown as early as possible, and are mown as in other parts of the county ; but here they are not bound in sheaves, but raked together by hand, and carried into the barn loose, where they are trodden with a horse. The clover is mown for hay, and fed after with sheep till Autumn, and then once ploughed for wheat.

The stone shatter and loamy soils, and hazel mould, are of a light dry nature, and may be worked almost at any time. These are made into good tilths for turnips, and frequently produce fine crops without any manure. The sooner the turnips are fed off, and the land sown, the better the produce in general, of barley and oats ; although great crops are sometimes obtained by a late sowing, if kindly showers soon succeed. But late sowings with a succession of dry weather, generally fail. The clover crop and wheat sowing are managed as beforementioned on other soils, only it is to be remembered, that the second growth of clover, on these, as well as all other soils, is sometimes saved for seed, but not in any great quantity. When beans or peas are put in on the wheat stubble, that operation is performed by drilling across the furrow, as soon as the land is dry in the Spring ; the crops are managed in other respects by hoeing, &c. as in East Kent, and the bean stubble is sown with wheat, as described in that district.

The early peas for gathering green, are drilled in rows, eight or nine to the rod, in the end of November, or beginning of December ; they are generally sold by the acre, to persons who gather them, and send them by water from Gravesend, or by land carriage to London market. The pea-straw when stacked dry, is esteemed very good fodder for

le and sheep. The land is immediately ploughed and sown with turnips. Manure is not always, but should be sown out for peas, by which no time is lost in getting the sheep sowing forward, and the manure is by that means, well mixed among the soil, to the immediate benefit of the young sheep, which is of the utmost importance; for by a rapid growth, they get out of the way of their great enemy the

Rye and winter tares are sown in great quantities near London, for spring feed for early lambs; they are fed off in good time for a crop of turnips.

The general management of this district, when compared with that of many other counties, may be said to be very good; it will by no means, bear a comparison with some of the eastern parts of this county, for cleanliness of crops, and general activity in the articles of labour, which are material circumstances in seed time and harvest.

The chalky soils which are always subject to charlock, are frequently seen quite yellow in June and July, with that weed in bloom, overtopping the crops of corn.

L I V E S T O C K .

There are very few horses bred in these parts, the farmers send them of dealers, who bring them at the age of three, four, or five years, from the midland counties. The dairies are small, seldom exceeding six or eight cows, and those are generally bred, of mixed breeds, between the Staffordshire, Shropshire, and Sussex.

Some of the small dairies of three or four cows, have the Welch sort only. Some of these Welch cattle are fattened in the meadow lands, with hay and grass in the Winter.

S H E E P .

A flock of sheep under a shepherd, and folded at night, is a very rare sight in West Kent; it is only a very few of the largest farmers who follow that practice.

The sheep mostly kept in this district, are the South Down sort, bought in wether lambs, at the autumnal fairs on the Downs, chiefly at Lewes, the second of October; they are kept the first Winter on stubble land, with grass and a few turnips, and on grass and seeds in Summer, and frequently are fatted on turnips, the next Winter, before they are quite two years old; this is become the favourite sort within these few years, and increases annually in this district.

The other sorts of sheep kept here, are the West Country from Wiltshire and Dorsetshire, the wethers are brought in at all ages, to be fattened on turnips.

They are chiefly bought at Weigh Hill fair in Hampshire. The Wiltshire sort is very long back'd and long legged, large bone and horns, which latter grow close to their cheeks; their wool is short and thick, much finer than Romney Marsh, though courser than South Down, and is frequently very hairy about the breech. They are often naked under their bellies, are esteemed a kindly sort to fatten on turnips, with oil cake and corn, or hay, and with such feeding, they arrive at a great weight, namely, from twenty-four to forty pounds per quarter; near Maidstone there are more of this sort than any other.

The Dorsetshire sheep are much smaller, with horns that turn more off from their cheeks, and wool rather finer; they are fed on turnips and other artificial food, and weigh from sixteen to twenty-four pounds per quarter.

Many parcels of ewes of these sorts, are bought in by the farmers to make early fat lambs; the Dorsetshire, are the first to produce early lambs, they are fed in the valleys on grass land, and on turnips, oil cake, corn, and hay. Both lambs and ewes are made fat, and sent to Smithfield market, or are sold to neighbouring butchers or jobbers.

Hogs, as at most other places, are mixture of many sorts, from the large Berkshire, to the small Chinese; no two farmers having the same sort.

IMPLEMENTS

	£.	s.	d.	£.	s.	d.
Thrashing oats, — —	0	1	0 to	0	1	3
Peas, — —	0	1	6 to	0	1	8
Digging hop ground, per acre, — —	0	1	5	0		
Cutting, — —	0	5	0			
Working hop grounds, all kind of labour included, per annum, per acre, — — —	3	0	0			
Hoeing beans, per acre, — 0	3	0 to	0	4	0	
Peas, — — 0	3	0 to	0	5	0	
Spreading dung, per hundred cart loads, — — —	0	3	4			
or per acre, about — —	0	1	8			
Turning dung, done by the day, —						
Making hedges and ditches, each per rod, — — —	0	0	3			
Poleing hops, per acre, — —	0	1	0	0		
Digging mould, per square rod, without having the roots — —	0	1	0			
Reaping wheat, — — 0	8	0 to	0	12	0	
Mowing barley and oats, — —	0	2	6			
Sainfoin, — — —	0	3	0			
Clover, — — 0	2	6 to	0	3	0	
Grass, — — 0	3	0 to	0	3	6	
Waggoner's wages, per annum, 10	0	0 to	12	12	0	
Second ploughman, — 8	0	0 to	9	0	0	
Waggoner's mate, — 6	0	0 to	7	0	0	
Second boy, — 4	0	0 to	5	0	0	
Bailiff, — — 12	0	0 to	14	0	0	
Dairy maid, — — 5	0	0 to	6	0	0	
Cook maid, — — 5	0	0 to	7	0	0	

In some parishes the prices of labour and servants wages, are much higher than others at a small distance.

What Improvements have been made.

The introduction of sheep by means of the turnip culture, on many farms of West-Kent, where formerly none were seen, and the consequent amelioration of the soil, may be considered as the first improvement that has been made in this district.

Many tracts of land before the cultivation of turnips, were frequently seen with poor crops of corn, sometimes hardly worth harvesting ; but now, by means of that culture, they often produce very abundant crops. The advantage from the value of the sheep feed, added to the increased quantity of corn produced, is a sufficient evidence of the improvement. In some woodlands great improvements have been made by filling up the vacant places, with such sorts of plants as the soil seemed best adapted for. Chesnuts have been found to flourish extremely on the poor gravelly and sandy soils of this district, more especially on that sort of gravel here termed pinnock. At some places where hardly any other plants will flourish, chesnuts grow with the greatest luxuriance.

There are two or three hundred acres of potatoes annually grown in the neighbourhood of Maidstone, which are chiefly used for fattening oxen ; but whether this may be ranked as an agricultural improvement is yet doubtful : for many farmers assert that they lose money by the practice, while others think it profitable.

The fattening oxen on oil cake and hay, stands nearly in the same predicament. Some farmers in this district who use oil cake, are well satisfied if they do not lose more than forty shillings by each ox, as they estimate the manure produced at about that value.

What Improvements may be made.

The western part of the county affords fine scope for the employment of improving genius.

The waste lands, the neglected woods, and the impoverished commons, are so many evidences of the necessity and importance of such enquiries as the present ; and the legislature will have abundant merit in suggesting to the proprietors and occupiers of these estates, a plan of improvement from which individuals and the community will derive the greatest advantages.

The commons and waste lands of West-Kent form an extent of many thousand acres, which at present produce very little ; though under proper systems of management they might undoubtedly be made of great value. Some of them have a good soil, but in general they are covered with sand, gravel, or stones ; none of these lands, however, are totally unproductive. Inclosures would do much ; industry, and due attention to the natural produce, and what has been cultivated on similar soils in other places, would do more. Nature is a wise counsellor, and those who follow her advice can, with the aid of art and observation, do wonders in agriculture.

The commons and waste lands of West-Kent, are

Hothfield Heath.
 Charing Heath.
 Lenham Heath.
 Pinnenden Heath.
 Cox Heath.
 Barming Heath.
 East Malling Heath
 Seal Chart.
 Hays Common.
 Bromley common.
 Bexley Heath.
 Dartford . .
 Black Heath.
 &c. &c. &c.

IRRIGATION

I R R I G A T I O N

Is hardly known among the farmers of this district, not one in ten ever heard of the practice; and as there are a great number of little vales, with rivulets running through them, there are many opportunities for improvements of this kind.

Miscellaneous Observations.

Tithe of corn in the vicinity of Maidstone, is generally compounded for. Wheat, from six to seven shillings per acre, and Lent corn, from four to five shillings.

Leases, by some proprietors, are refused, on account of the game: others grant them for nine, eleven, and twenty-one years; few tenants are bound to any particular system, but are restrained from selling straw, hay, or dung, and from breaking up old pasture land, under penalties of from three to five pounds per acre.

They are never bound to keep their land clean from weeds! Landlords usually covenant to keep the buildings in repair, and to pay the land tax and quit rent.

In some parts, the tenants are allowed to sell straw and hay, on condition of buying a load of manure for every load of straw or hay sold.

The price of provisions is nearly the same as in the eastern part of the county, excepting only, the productions of the country being somewhat cheaper at places most remote from the capital and populous towns; and imported provisions, such as cheshire cheese, irish butter, &c. being somewhat cheaper at those places.

The state of farm houses cannot be otherwise generally described, than that the best cultivated parts have the greatest number of good houses, and that the worst cultivated parts have a great number of bad ones, and from hence it may be inferred, that where agriculture flourishes, population will increase, and trade flourish in proportion.

M

MANURE.

M A N U R E.

Farm-yard dung and hedge mould mixed, is the principal kind used for both arable and meadow lands; but in some parts, much of the dung is carried to the meadows and hop grounds, and lime is used on the arable land, and on stiff cold clays great quantities of chalk are used. It is said to improve the land for twenty years. The value of it in the land is often estimated between out-going and in-coming tenants, when lately laid on, as high as five pounds per acre.

H I G H W A Y S.

The turnpike roads, and those most frequented, are kept in tolerably good order; but the bye roads of West Kent are frequently impassable for post chaises, and very bad for every other mode of travelling.

The difference between the shoulders of the axle trees of waggons and carts, is two inches more in the eastern part of Kent, than in the vicinity of Sittingbourne, and in the western part two inches less, which makes it very inconvenient for carriages of one district to pass in the deep channels of the other, and seems to be a public inconvenience.

The W E A L D of K E N T.

This district of the county was in ancient times, an immense wood or forest, inhabited only by herds of deer and hogs, and belonged wholly to the King.

By degrees it became peopled, and interspersed with villages and towns, and by piecemeal, was, for the most part, cleared of its wood, and converted into tillage and pasture. There are however some woodlands still in their original state.

The reputed boundary of the Weald, begins at the margin of Romney Marsh, and runs along the top of the Ragstone-hill, above the churches of Kingsnorth, Great Chart, Pluckley, Egerton,

Egerton, Boughton-Malherb, Ulcomb, Town-Sutton, Chart-Sutton, Linton, Hunton, Yalden across the Medway to Teston and Watringbury. From thence it proceeds by Hert's-Hill, River-Hill, and Idle-Hill, to Wellestreet on the borders of Surry, and then in union with the boundary lines of that county and Sussex, taking in the Isle of Oxney, goes on to Apledore, and the borders of Romney Marsh. It is somewhat remarkable, that the sloping part of the stone hill which separates the Weald from the ragstone shelf above, should be so thickly covered with villages, whose churches stand about half way up the slope of the hill; while the neighbouring chalk hill ridge, which separates the ragstone shelf from the hill above it, has not a single village or church upon it. The stone hill, in the extent of between twenty and thirty miles, has ten or twelve parish churches upon it.

S O I L.

The Weald of Kent has the reputation of being an entire mass of clay, but on examination, it is found, there are the following varieties of soil, namely, 1. Clay, 2. Hazel mould, 3. Sand, 4. Ragstone gravel.

The clay is either stiff and exceeding heavy to plough, or a wet sort which ploughs somewhat lighter. The first is chiefly found on the eminences, or their sloping sides. The surface is about seven or eight inches deep, under which is a stratum of stiff yellow clay about a foot or two thick, with a subsoil in some parts, of excellent marl.

The second sort of clay lies in the lower parts, is extremely wet after showers of rain, and a long time in getting dry, which often occasions a late sowing, and a backward harvest, and frequently the wheat season is totally lost. The surface of this land is seven or eight inches deep, and the subsoil is at some places, a yellow clay, and at others a soft sand-stone rock, which is often used for mending roads. It grinds down to a soft sand.

M 2

Four

Four horses with difficulty plough an acre per day in these soils. In some parishes bordering on Sussex, the ploughing work is done by oxen, four or five pair are generally fixed to a plough, and do about the same quantity in a day as four horses. The hazel-mould is a clay soil of a drier nature, from having a considerable mixture of sand; it ploughs lighter, and is the best land in the weald. Sandy soils are of two sorts, black and white; the black is little regarded, but the white is much improved by marl and lime.

The little there is of this soil in the district, produces turnips, barley, clover, and wheat, and the subsoil is the soft sand stone. The ragstone gravel is found only in small patches, and is of little value in its present state, being covered with furze, heath, and broom.

S Y S T E M.

The covenants in the leases between landlords and tenants, point out the system to be pursued, which is fallow, wheat, oats, clover, or layers for two or three years. The tenants are bound to lay one hundred bushels of lime per acre, on the fallows for wheat, and generally put on double that quantity.

This lime is made of chalk, from the hill beforementioned, and is brought from the distance of twenty miles, to some of the parishes, tho' there is excellent lime stone in the centre of the weald; and even in the parish of Bethersden, famous for a fine lime stone, called Bethersden marble, chalk lime is preferred, and the chalk to make it is procured at a considerable distance. Chalk-lime is applied to stiff clay lands, and stone lime for sandy soils.

The old lays are ploughed late in the spring, generally in the month of May for the first time.

They are cross ploughed and well harrowed, as opportunity offers, during the summer in dry weather.

The lime is dispersed, in heaps of a load or two at a place, during the Summer, and spread with a shovel out of a cart before

re the last ploughing for wheat, which is generally sown the month of October, and reaped in the middle of August. The wheat stubble is cleared in the Autumn for littering bullock yards, thatch, &c. The land is ploughed six or eight inches deep, and the oats are sown with the clover seed, without any other ploughing, as soon as the land gets dry in Spring. The soft wet clay soils are generally sown with grass and clover together. The crops of seeds are mown in May, and then fed off until the land is ploughed; except in some cases, where clover is sown alone on the best land, which is mown twice; the first time for hay, and the second for seed. In the best land beans and peas are sown on the new layers, and on the old layers of grass. Peas frequently succeed; beans very seldom. The hazel mould and best sandy soils are under the four course system of turnips, barley, wheat, &c. The turnips are frequently carried off the land, which so exhausts the soil that the clover layers are often left up for a summer fallow. Oats are mown and carried into the barn and trodden with a horse, as in other parts of Kent.

G R A Z I N G.

A great portion of the land of this district is old pasture, much of it very excellent. The system of management is to rear young cattle, which are put out to keep to the open heath and marsh graziers in the Summer. In the Autumn, they are taken home to the layers and inferior grass lands, and in the Winter to the straw yards, or stay out on rough heath, and have straw carried to them; when they are of age to fatten, which is at four years for steers and three for cows, they have the best grass with hay. That which is composed of rye grass and clover is given at the first part of the Winter, and the best hay of the farm is used to finish them. The meadows are always mown for hay to fatten the oxen. The inferior ones are stocked, first with milking cows, and then with lean cattle, or working cattle.

working oxen. A suit of fields are thus fed in rotation during the Summer.

A great number of Romney-Marsh lambs are taken into keep in the Winter, on the stubbles, old layers, and meadows; the price of keep is from two shillings to two and sixpence per score, per week. These lambs are returned the fifth of April, and in bad Winters frequently go home nearly starved, from which they sometimes die in great numbers when they get into good keep. Great losses are likewise often sustained after a wet Autumn, by the rot.

The layers of rye grass and clover are mown for hay, which is used for the plough teams and lean cattle, and some of the best is given to fattening bullocks in the beginning of the winter. The old meadows produce great crops of hay which is of a very fattening quality. Bullocks fed thereon frequently weigh from forty to forty-five score each, and some old working oxen attain the weight of sixty score, or sometimes much more. The fat oxen are commonly sold between the months of March and June. The sale of them is the chief dependance of the Weald farmers for payment of their rent, and other heavy expences.

LIVE STOCK.

There are hardly any sheep bred here, excepting a few for producing early fat lambs, of the Wiltshire and Southdown sorts. Some of the Wiltshire wethers are bought in to fatten on turnips, and a few Southdown wether lambs are bought in the Autumn, and kept on the driest parts until they are two years old, and then made fat for sale on turnips or meadow lands.

CATTLE

Are of the Sussex breed, both for the pail and plough. Some farmers are more careful in the choice of bulls and breeding cows, than others; but there is not that attention paid to this department of farming business, as in the midland counties. The finest bull of this district would hardly sell for

twenty guineas, although he may be very handsome in every respect, and weigh, if killed, fifty or sixty score. These cattle are almost invariably of a deep red colour, and remarkable for a kindly soft skin. Their bone, in proportion to their great size, is small. The best of them have a great breadth of loin, and length of sirloin and rump, with a small head and neck, their horns are short and stand upwards. They have a ready disposition to fatten, and seem to deserve the attention of the curious in cattle, as much as any sort in the kingdom. If the same care was taken here in breeding them, as is done in other counties, the breed might be greatly improved; and probably some of the best might be found equal in value to a Shakespear or a Brindle Beauty.

The hogs are various mixtures of the home breed, and Chinese kinds; many are kept in the woods in the Autumn on acorns, and fattened on corn in the Winter.

The hop gardens of the Weald are dispersed in small fields, in most of the parishes, they are managed as in other parts of the country, but produce less crops, and hops of an inferior quality.

IMPLEMENTS OF HUSBANDRY.

For breaking up layers, a foot plough with a turn wrest is used, they cost fifty-five shillings each. For cross ploughing, and every other occasion, the Kentish turn wrest plough, it costs five guineas. Harrows, rolls, and waggons as in the western part already described.

Carriages, called bavin tugs, are chiefly used for faggots, and many use them for corn and hay.

They carry one hundred and fifty faggots, each four feet long and three girt. The hind and fore wheels are fourteen feet apart, by which the length of the carriage is so much, that the load lies very low, and is thereby less liable to be turned over, which otherwise would often be the case in the roads of the Weald. This implement costs about fifteen or
sixteen.

sixteen pound. Dung carts contain sixteen bushels, and cost seven pounds. Marl carts contain twelve bushels, and cost five pounds each.

PRICE OF LABOUR.

	<i>s. d.</i>	<i>s. d.</i>
Day labourers, — — —	1 4 to	1 6
Thrashing wheat, per quarter, — — —	2 6 to	3 0
— — — oats, — — —	— — —	1 0
— — — barley, — — —	— — —	1 6
— — — peas, — — —	— — —	1 6
— — — beans, — — —	— — —	1 4
Spreading dung per hundred cart loads, — — —	— — —	3 4
— — — lime, per hundred bushels, — — —	— — —	1 0
Hedging, per rod, — — —	— — —	0 2
Scowering ditches, — — —	— — —	0 2
Reaping wheat, per acre, — — —	6 0 to	10 0
Mowing oats or barley, — — —	1 2 to	1 6
Cutting beans, — — —	5 0 to	6 0
— — — peas, — — —	3 0 to	4 0
Mowing clover hay, — — —	1 6 to	2 0
— — — grass, — — —	2 6 to	3 0
Value of ploughing an acre of land, — — —	7 0 to	8 0
Waggoner, per year, with board, — — —	<i>£.</i> 10 to	<i>£.</i> 13
Second ploughman, — — —	9 to	10
Waggoner's mate, — — —	5 to	7
Second boy, — — —	4 to	5
Bailiff, — — —	10 to	13
Cook-maid, — — —	4 to	5
Dairy-maid, — — —	3 to	4

WOODLANDS.

I am favored with the following account of woodlands, by Mr. Randall, a very respectable and ingenious nurseryman, at Maidstone. Some are in East and West Kent, as well as the Weald.



Chilbon.	No Improvements going on.	Poles, Bavins, Cord
	No Improvements.	As last.
Mr. Read, Seager, & others.	A most capital Improvement for Poles, by Mr. Seager, with Ash, one Acre of which Underwood, is now of equal value to eight round, same age.	Produce a few Pol Bavins, &c. the 1 many Poles, and t
Wardens of the Bri	eginning to improve by Ash and Chesnut Plants.	Poles, Cord Wood,
— Foote, Esq.	o Improvement.	The same as above.
Dean and Chapter Rochester.	o improvement.	The same.
Earl of Aylesford.	o Improvement.	The same.
— Best, Esq.	o Improvement.	Abundance of Poles &c. &c.
Boxley.	apital Improvement of Chesnuts on poor Sand.	Many Oaken Tiller Poles, &c.
Mrs. Bouverie, Sir Filmer, and others.	o Improvements.	Some very good Fen Poles, Cord Woo
Lord Romney.	proved by planting many Ash, Chesnut, and Willow, said to be the most Ancient of all the neighbouring Improvements.	Hop Poles, fence Po
Lord Romney, and Mess. Amhersts	uch improved by planting Chesnut, &c.	Quantities of good I Poles, &c.
Mrs. Milne, the Hon. Mr. Pusey.	proved as above.	Product as above.
Mrs. Bouverie, Sir Twicken, and Le Despencer.	above, with some new Plants of Chesnut, by Lord Le Despencer, on very Gravelly Loam.	The same.
Lord Le Despencer, Wm. Geary, Esq.	others.	Ditto.
— Cartier, Esq. & others.	it very little improved.	Fewer Poles, Fire above.
Waste.	aste Lands.	Free from Novemb





GENERAL OBSERVATIONS on the preceding Table.

The oaks are all cut in the flawing season, for the bark of all sizes.—The fencing poles are either used whole or cut into gates for sheep.—The hop poles are sorted into three, four, or five sorts, and sold by the hundred. The faggots or bavins are made into lengths of five feet, the best for bakers and house-keepers; and on the hills they make inferior sorts, called kiln-brush, which are used for burning lime.—Stakes and ethers are cut out before the faggots are made.—In the neighbourhood of Chatham they cut some small bundles of brush and cord wood, for the use of shipping, and the metropolis.—The Woodlands of the Weald are tithe free.

What Improvements have been made.

The Summer fallows are said to be better and oftener ploughed than heretofore, and more lime is bought by the farmers. The use of marl too increases; it being found of great benefit to the stiff clays and sandy soils.

Some grass lands have been greatly improved by it. The quantity laid on an acre is usually three hundred cart loads, or about thirty-six hundred bushels; it has the reputation of making the white clover come exceedingly strong among the grass.

What Improvements may be made.

In the little vales of this district there are several tracts of low grass lands of a rich and fertile nature, which often in Winter, and sometimes in Summer, are entirely under water; and the crops of hay are frequently, when mown, swept away by the floods, occasioned by vile neglect of the drainage, an evil which can only be remedied by a commission of sewers.

The system of fallow, wheat, oats, layers, prescribed by the landlords, prevents speculative trials of any new mode of culture. It may be presumed, that among the various systems of management throughout this kingdom, there are some of

N

them

them, that if tried here, would be found more profitable than the present practice ; at any rate improvements should not be restrained by covenants in leases.

The HIGHWAYS of the Weald

Are perhaps the worst turnpike-roads in the kingdom ; some of them are absolutely impassable by quartering carriages, and at all times in Winter, even carts are excluded ; and it is extremely dangerous and frequently impracticable in that season to ride on horseback along the main roads. In consequence of which, narrow paths, called horse tracks, are paved with stones ; or formed with sea beach, on one side of the roads, just wide enough to ride upon ; but even this convenience is not general.

Can materials for making good roads be wanting, where sandstone and limestone so much abound?—And would not good roads contribute to improvements in husbandry?

Miscellaneous Observations.

Tithe is generally compounded for throughout the Weald of Kent.

Wheat, from — —	5s. to 6s.	} per acre.
Oats, — — —	3s.	
Beans, peas, and barley,	3s. to 4s.	
Seeds and meadow, —	2s.	

Leases are usually granted for twenty-one years. Some for seven, eleven, and fourteen.

Poor rates are very high, generally from three to six shillings per pound, and a few as high as seven shillings. Would not houses of Industry contribute to lessen the poor rates?

Irrigation is hardly known, but might be practised in some places to great advantage.

ROMNEY

ROMNEY MARSH,

Is a spacious level of exceeding good rich marsh land, lying at the south corner of the county of Kent. Its shape is nearly that of a parallelogram, whose length from the foot of Allington-Hill to the sea shore, between Dungeness and Rye, is about twelve miles ; and breadth, from the borders of the Weald of Kent, by Warchorn, to the sea shore, between Romney and Dymchurch, is nearly eight miles. It contains the two corporate towns of New Romney and Lydd, and sixteen other parishes. The quantity of land contained in this level, that is within the county of Kent, is about forty-four thousand acres ; the adjoining level of Guildford-Marsh is the greater part of it in the county of Sussex.

There is a small tract of land along the sea shore, that consists of poor barren sand hills, and some portion of the Marsh is but indifferent breeding land ; but the principal part of this level is wonderfully rich and fertile.

There are but very few oxen fed on it compared with what other rich marsh lands usually keep ; but the quantity of sheep bred and fed here, exceeds, perhaps, any district of the like extent in the kingdom. Some of the fields support of young sheep, in the Summer, from five to twelve per acre ; and most of the breeding lands keep two and an half and three ewes per acre throughout the Winter, without hay, or any other resource whatever.

The scattered inhabitants of the marsh are chiefly lookers and bailiffs, whose employers reside in the upland parts of the county, or in the neighbouring towns.

The fences are either ditches or oak posts and rails, there being but very few hedges, or hardly any trees in the marsh, except a few about some of the villages. Immense quantities of oak posts and rails are annually brought out of the woodlands of the Weald of Kent, for the repairs of the fences.

Mr. Hasted says, in his History of Kent, " This large tract of marsh land was perhaps fenced in from the overflowings of the sea, as early as any in these parts of England ; for the laws, statutes, and ordinances, for the conservation of it, are, like our common laws, without any known original ; and as early as the 35th of King Henry III. they are called ancient and improved customs. At the above time it appears, that there were 24 jurors, or jurats, as they are now called, who were, time out of mind, elected by the commonaltie, and sworn to do the best they could for the preservation of the marsh from such overflowings ; and they had, by custom and prescription, power to raise a tax for that purpose, which was confirmed by the same King's Letters Patent, at Romney, on September the 20th, in the 36th year of his reign."

The marsh is defended against the sea by an immense wall of earth of great strength ; the face of it next to the sea is covered with overlaths and piles, that fasten down poles and bushes to the slope of the bank, to prevent the waves of the sea from washing away the earth. This wall is upwards of three miles in length, which with three guts through it, and their respective sluices, is maintained by a scot over the whole level. The expence of the repairs of this wall and the sluices, is above four thousand pounds per annum.

S O I L.

Almost the whole of this spacious level of fine marsh land, is the sediment of the Sea. It consists chiefly of a soft loam and clay, with a greater or lesser mixture of sea sand ; there are however, near the sea shore, some small tracts of blowing sand, and some sea beach, which are of very little value.

The principal part of the soil being a fine soft loam, with a mixture of sea sand, and having lain time out of mind in grass covered with sheep both Winter and Summer, its turf is wonderfully thick and fine ; and the grass it produces is

fattening quality, equal, if not superior, to any in the
om. The other parts which are inferior, are those
n have a less portion of sea sand, and are a stiff clay ;
ose which have too much sand or gravel, and are in con-
nence apt to burn in dry Summers ; and those are the lands
n are used as breeding grounds.

the subsoil is frequently seen in alternate layers of clay and
and sometimes beach and sand.

S Y S T E M.

the grand system of management in this marsh, is that of
ing, rearing, and fattening sheep ; the practice of feeding
attle and even fattening some of the smaller sorts of
h ones, is only made subservient to the principal object—
grazing—merely to take off such grass as runs away
the sheep in a growing time ; it is always considered as
nely bad policy to see much grass on the land among.

Every grazier whose business is complete has two
of land, namely, breeding land and fattening land. The
ing land is stocked with ewes in the Autumn for the
er ; every field has such a number placed in it, as the
ier supposes it will keep, which is from two and a half to
and a half, and in some cases four per acre, in pro-
n to the strength of the field.

the rams are usually put to the ewes, allowing one to forty
y, and sometimes sixty, from the twelfth to the sixteenth
ovember, and stay with them about five weeks. The
live entirely on the grass, without any hay, during the
r ; in deep snow they scrape with their feet, and obtain a
tence, although they then lose flesh and sometimes be-
very poor by their yeanning time. This marsh pro-
many twins, but a great number are lost, so that most
rs consider their crop not a bad one, if they wean as
lambs as they put ewes to ram. The lambs are
l the first or second week in August, and very soon
after

after put out to keep to the upland farmers of the county, where they remain 'till the fifth of April, at from two to three shillings per score, per week. When they return to the marsh, they are put on the poorest land, or such fields as the grazier thinks want improvement by hard stocking; which is here called *tegg*ing a field, and is held to be of great service. These young sheep are placed in the fields in proportion to what it is judged each will maintain from the fifth of April until August, which is at the rate of from five to twelve per acre.

The wether tegs in the Autumn are removed to the fattening, and the ewe tegs to the breeding grounds, among the two and three yearling ewes. The wethers remain 'till July or August following, when, as they become fat, they are drawn out and sold to the butchers at the marsh markets, or are sent to Smithfield. The two yearling wethers, when fat, at this season weigh from twenty to twenty-eight pounds per quarter, and some of the largest and best fed, a few pounds more. The old ewes, here called *barrens*, are put to fattening as soon as their milk is dried after their third lamb, which is at the age of four years, on some of the best land, where they are placed from three to five per acre for the Winter. These, in favorable Winters, are sometimes made fat and sold in the Spring soon enough for the same field to take in a fresh set of wethers and make them fat by the Autumn; but this can only be done by light stocking.

In kindly growing Summers it is particularly necessary to keep a strict watch on the grass, that it may not run away from the sheep, and to prevent it by adding more sheep, or any other stock that can be had to keep it under; for if it is suffered to run from the sheep, they are much injured and the grass gets coarse; upon such occasions, cattle are generally taken in to keep, at very low prices. The young cattle that are fed in the marsh, are chiefly taken in to keep for the Summer, from the upland farmers. They are placed among

the sheep, to eat the coarse spots of grass, and are kept there from May about twenty weeks.

Some graziers for this purpose buy welch calves in the Autumn, put them out to keep, in farm yards, for the Winter, and in the Spring place them among their sheep, where they get fat in a few months and weigh from eighteen to twenty-two score each.

A very few oxen are fattened, which are bought in from the plough teams of the wealds of Kent and Sussex. They are very large and have a reserve of the best grass to themselves; from their size they require a longer time to get fat than the smaller sorts; they usually weigh from forty-five to seventy score each.

W O O L.

This article here is the combing sort of the first quality, being very long and fine; the fleeces of the young sheep are about five pounds weight, those of the ewes six, and the fattening wethers eight or nine pounds each. This marsh is supposed to produce twenty pounds of wool per acre, which, for forty-four thousand acres within the county, is eight hundred and eighty thousand pounds of wool, or three thousand six hundred and sixty-six packs per annum. But as the greater part of the land has above four sheep per acre at shear-time, and as the average weight of the fleeces is certainly above five pounds, the annual growth of this marsh in the county of Kent, is probably full four thousand packs.

T I T H E.

The grass lands, (except of the parish of Lydd,) pay a modus in lieu of tithe, some of four-pence, some eight-pence, and others one shilling per acre; and the corn lands pay a composition of from four to six shillings. And some parishes paying the low modus for grass, if it is mown, pay one shilling per acre.

ARABLE.

A R A B L E.

The very small portion of land under the plough is wonderfully productive in wheat, beans, and peas. The quantity annually broken up is thought to increase, owing to the moderate composition before mentioned, taken by the Clergy in lieu of tithes. The practice of ploughing however is not very general ; and the greatest quantity in any one person's hands, hardly exceeds fourscore acres ; very few have half so much ; and most of the tenants none,

S Y S T E M.

The first crop when the marsh land is ploughed, is usually peas, the second peas or beans, and then wheat, succeeded by beans and wheat alternately for a few years, with sometimes a variation of a crop of oats or peas.

There is neither woodland nor hop-ground in the marsh, and hardly any fruit growing.

P R I C E O F L A B O U R.

	<i>s. d.</i>	<i>s. d.</i>
Labourers, per day, — — —	—	2 0
Mowing thistles, per day, — — —	—	2 6
————per acre, — — —	0 4 to	1 0
———— grass, per acre, — — —	3 0 to	5 0
Women hay-making, per day — — —	—	1 2
Men, — — —	—	2 0
Casting ditches, 9 feet wide, per rod,	1 6 to	2 0
Fencing, per rod, 2 posts and 8 rails	—	13 0
Ditto, 2 posts and 6 rails, — — —	—	9 0
Thrashing wheat, per quarter, — — —	3 0 to	4 0
———— beans, — — —	1 6 to	1 8
———— peas, — — —	1 8 to	2 0
Value of Ploughing an acre of land, —	11 0 or	12 0
Implements of Husbandry the same as in other parts of the county.		

What

What Improvements have been made.

The increased number of sheep kept in Romney Marsh, sufficiently denotes its improvements ; and it is chiefly the hard stocking with sheep that has been the means of a greater number being fed. For it is in the Marsh a settled maxim, that the more a field does keep, the more it will keep.

Romney Marsh has generally been considered very unhealthy for its inhabitants, but of late years it is found to be greatly improved in that respect ; it being now as healthy as many other parts of the county : and this change is attributed to the attention of the occupiers in cleaning out their fence ditches, by which there is less stagnated water.

The land was formerly much overrun with ant hills, but now very few are to be seen ; they are cut and carried to low places, or laid up in ridges or banks, by way of sheltering the young lambs from the cold wind : and some have been rotted in heaps, and then spread on the land for manure. This is most certainly a very great improvement, although there are some few graziers yet, who positively assert the contrary, and will not suffer the ant hills to be destroyed, under an idea, that there is more grass grows between them, by means of the shelter they afford. But this argument seems more an excuse for neglect, than a justification of ant hills.

What Improvements may be made.

The general management of the land in Romney-Marsh is so very excellent, that it is hardly possible to conceive a better mode. The fences are kept in good order, the grass fed down smooth and even ; thistles constantly kept under, and drainage well conducted, which together with the constant verdure and innumerable quantity of sheep always feeding on the land, form a universal neatness and beauty of appearance hardly to be met with in the kingdom.

The art of improving the breed of sheep and growth of wool in this district, is however yet quite in its infancy, especially when compared with those arts in the midland and northern counties.

The size of ewes and rams is with most graziers the principal object in the breeding of sheep; great bone is considered as merit oftener than demerit, and coarse wool frequently preferred to fine, in order to bring down the scale; every idea of excellence in wool being attached to quantity, not quality. In Autumn, when the ewe tegs are sorted out for the breeding grounds, by taking out the bad ones for sale or fattening, there are very few graziers, if any, who reject those with coarse fleeces, if they like them in other respects; hence it is that almost every man's growth of wool is uneven, some very fine fleeces and others very coarse. This must in some respects puzzle the buyers of wool, how to calculate the true value of every man's growth, and probably induces them to be very cautious in giving a full price, through fear of having a great share of coarse fleeces; was every grazier to refuse to breed from coarse woolled ewes and rams, their growth of wool would soon become even and fine, and wool buyers would be in less danger of being deceived by a great portion of coarse wool, and would buy with greater confidence; and the grower would, in all probability, obtain an additional price, more than would compensate for any deficiency in the weight.

The soil of Romney-Marsh and its climate seem naturally disposed to produce wool of a very long staple, and at the same time a very fine quality in proportion to its length. It should, therefore, be the study of the growers of wool to improve the advantages nature has blessed them with, by rejecting, as breeding ewes, every one which has a loose open coarse fleece, or a hairy breech; and to choose both rams and ewes with thick, long, fine wool in every part. If this rule was generally adopted, the growth of wool in Romney Marsh would, in all probability, in a few years be twenty or

per cent, better than it now is ; and by getting it thick skin, there would be, perhaps, very little, if any decay in weight.

great attention to the carcase, that also might be much improved ; rams and ewes should be selected with great care of loin and chine, small head, neck, and bone, short back, and short legs. These points being gained, other merit, such as a disposition to fatten quick, and to gain weight, will follow of course ; for there can be no doubt but that a small boned animal fattens quicker than a large boned one with the same quantity of food ; and those which from a given quantity of food, produce the greatest quantity of flesh, and least of bone, must undoubtedly be the most profitable animals to the community.

F I N I S.



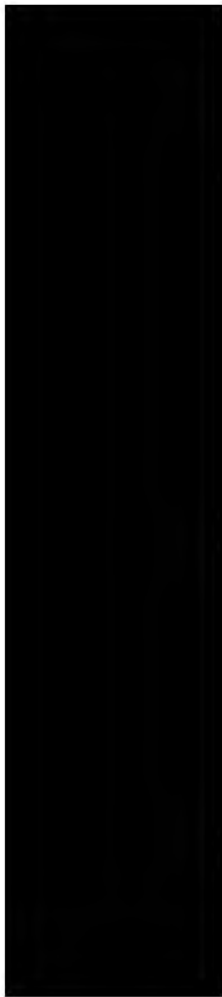
GENERAL VIEW

OF THE

AGRICULTURE

OF THE

COUNTY OF SURRY



SECRET

ADDITIONAL

PROPERTY OF


GENERAL VIEW
OF THE
AGRICULTURE
OF THE
COUNTY OF SURREY
WITH
OBSERVATIONS ON THE MEANS OF ITS IMPROVEMENT

BY
MR. WILLIAM, JAMES,
AND
MR. JACOB MALCOLM,
OF STOCKWELL, NEAR CLAPHAM.

DRAWN UP FOR THE CONSIDERATION OF THE ^{91 10 11} BOARD OF AGRICULTURE
AND INTERNAL IMPROVEMENT.

LONDON:
PRINTED BY C. MACRAE.

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no.6

TO THE READER.

IT is requested that this paper, may be returned to the Board of Agriculture, at its Office in London, with any additional remarks and observations which may occur on the perusal, *written in the margin*, as soon as may be convenient.

It is hardly necessary to add, that this Report is, at present printed and circulated, for the purpose merely, of procuring further information respecting the Husbandry of this district, and enabling every one, to contribute his mite to the improvement of the country.

The Board has adopted the same plan, in regard to all the counties in the united kingdom; and will be happy to give assistance in its power, to any person, who may be desirous of proving his breed of cattle, sheep, &c. or of trying any experiment in Husbandry.

LONDON, MARCH 1794.



INTRODUCTION..

BOUNDARIES.

THIS county is encompassed on the north-west by Berkshire, on the west by Hampshire, on the south by Sussex, on the east by Kent, and on the north by the river Thames; along which it runs for a distance of twenty miles, and thereby possessing advantages of the utmost importance to agriculture and commerce. It has also three other rivers of less note, viz. the Wandle, the Mole, and the Wey; on whose banks, as well as on the Thames, innumerable manufactories are carried on. From being thus situated, and from its contiguity to the metropolis, together with the great number of noblemen and gentlemen's seats that are every where scattered through the county, it has unquestionably a decided claim to a very distinguished part in the division of this kingdom.

Waste.—Will it not then be matter of surprise, that at the close of the seventeenth century, there shall be found, in a county like this, commons and wastes of the magnitude of 96,000 acres; the much greater part of which, if not the whole, capable of being made subservient to the purposes of agriculture, and thereby enabling us to supply those foreign markets, which stand in need of it, with that superabundance which, to our shame be it spoken, we draw at this time from Flanders, Holland, and America? But as it is our intention to treat of each of these wastes and commons separately, and to describe their extent as well as quality of soil, so we shall

I

draw



draw such conclusions from the whole, as our observations, founded upon actual views of the same, have enabled us to form.

Contents, &c.—The county is computed to be thirty-nine miles in length, from east to west ; and twenty-five miles in breadth, from north to south ; and 146 miles in circumference ; and, taken as a plane, contains about 481,947 statute acres. There are thirteen hundreds, 140 parishes, and eleven market towns. The upper soil is very various, consisting of black mould, clay, sand, chalk, and loams, of different depths. The under soil is of different strata, but principally composed of chalk and gravel, thereby rendering it dry, healthy, and pleasant. In the interior of the county, the air is mild ; and as the soil is generally good, the crops of corn and hay are abundant. The woods, of which there are but few, are promising, shewing at once what it is capable of, and what ought to be done. But in the extremes of the county, and particularly to the south-west, the air is bleak and cold ; and, excepting a delightful spot here and there, the soil is an entire sand and barren heath.

Rivers.—The river Wandle rises near Croydon turnpike, and being assisted by other springs at the back of the town, takes its course through Waddon, Beddington, and Wallington ; where it is joined by another river, which is formed by several springs, but particularly by two of great magnitude arising in the park of George Taylor, Esq. as well as two from out of the grounds of Thomas Durand, Esq. These collecting into a large and beautiful sheet of pellucid water, in the very center of the village of Carshalton, pass from thence through Mitcham and Merton to Wandsworth, where it empties itself into the Thames ; on the banks of which a chain of manufactories are formed, of such extent and value, that no river of the same length can parallel.

The river Mole rises in the south-east side of the shire, and is supposed to take its name from sinking into the Swallows at the foot of Box Hill, and working its way under ground, for near two miles, until it comes to Leatherhead, where, according to common tradition, and the maps of the county, it rises again, and running northward, falls into the Thames, at a village from thence called Moulsey.

The river Wey enters the county from Hampshire, near Farnham, runs east to Godalming, and there turns north, where it becomes navigable to the Thames at Weybridge, being of infinite benefit to the county, which it supplies with all sorts of necessaries, particularly coals from London. It is here worthy of remark, that the first locks that were constructed were erected upon this river by a gentleman of the name of Weston.

The landed property in the county may be divided into three classes, viz. inclosed land, common field land, and waste land. As the improvements to be suggested will principally relate to the two latter, we shall begin with them, commencing at the eastern part of the district. It may be proper, in the first place, however, to remark, that the part which is more immediately adjoining the metropolis has, within a few years, found a value hitherto unknown, which has been occasioned by letting out the land upon building leases; the houses in general are an ornament to the country, if, indeed, we except a spot called *St. George's Fields*, which, either by the oversight of the Committee of City Lands, or from some other cause not very material for us to inquire into, is now rendered a shameful receptacle for every species of vice. We notice this, that those who have the management of other estates may profit by the error which they have committed, and which, if possible, ought to be remedied.

STATE OF COMMONS.

THE property which the Prince of Wales has in the county of Surrey, not far from the metropolis, has been of late much increased in value, but is still capable of great improvement particularly that little fertile spot well known by the name of Kennington Common, and which, although containing no more than twenty acres, might, from its situation, judiciously managed, be productive of a considerable revenue—mean by granting building leases. At present it is common for all cattle, without stint, belonging to those parishioners who reside within the Prince's liberty, and who pay a certain stipend per head, which sum goes towards defraying those expences which the keeping up the fences necessarily incur. It is shut up during the winter six months, and opens again in May; but it is no sooner opened, than the number of the cattle turned on is so great, that the herbage is soon devoured, and it remains entirely bare the rest of the season, which proves that no essential benefit is derived from it in its present state.

As far as the village of Dulwich, which is in Camberwell parish, few improvements can be suggested either in the garden grounds, pasture, or arable land; but here we enter a waste called Dulwich Common, the present state of which is an indifferent sour pasture, the soil being chiefly loam upon a strong clay, and for want of being properly drained, and the ant hills levelled, it is become very wet and injurious to sheep, particularly in the winter season. From these circumstances, and being much poached when wet, no wonder that in the summer it is to be seen so full of cracks. It contains 200 acres, and adjoins to Norwood, which is in the parish of Lambeth, and in the See of Canterbury. The soil of Norwood is composed of a sandy loam, upon clay or gravel, and is said to contain 600 acres, the greater part

ch is in a neglected and uncultivated state ; 250 acres
 an inclosed wood ; no trees are, however, suffered
 for timber, because they are cut or lopped every ten
 years. The other part of Norwood consists of
 oak pollards, bramble, furze, and fern : yet ca-
 of producing as good timber, corn, and pasture, as any
 the county. There are, to be sure, many springs
 out the whole may, with great ease, be effectually

Considerable improvements have been made in
 neighbourhood by the Right Hon. Lord Thurlow, who
 sted in a rural situation, on an elevated knoll, one of
 st magnificent houses in the county ; and, by a judi-
 ciatment of his land, has led the way for gentlemen and
 to follow his example ; and fortunate would it be
 ry county, if noblemen and gentlemen's seats were
 regularly dispersed, to serve as patterns, and to keep up
 rit for improvement which a neighbourhood of farmers
 not likely to excite or produce ; and thence it is, that
 regard is paid to agricultural advancements in the
 east part of Surrey.

ining to Norwood is Penge Common, containing
 es ; some part of which is at present good pasture ;
 parts overrun with brambles, furze, &c. The soil is
 ed of sand, loam, and clay ; but requires draining.
 closure of this common is in contemplation, and a
 effect it is before the House of Commons, to which
 success, as the only means of rendering it of lasting
 to individuals, as well as to the community. In its
 state it cannot be said to be worth five shillings per
 out we have no question that, when inclosed, it will
 value of at least forty shillings an acre.

ween the four and five mile stone on the road to Croy-
 a waste called Rushey Green, or Brixton Common,
 ing about 150 acres of good loamy soil ; but being a
 without ditches, the water has no way of draining off,

and therefore produces nothing but rushes and sour pasture. This common is capable of being drained with great ease. The intermediate land near these commons, and to Croydon, is for the most part strong loam or clay, with numberless springs scattered about; but by judicious management, and great attention paid to the collecting of manure from London, and which is purchased at two shillings a load when long, and five shillings for spit or rotten dung, the crops are, therefore, for the most part abundant. Artificial grasses, clover, tares, rye, and turnips, are the prevailing articles of cultivation. A few calves are suckled for Smithfield in this district.

To the west of Streatham is a common of 250 acres, a loamy soil on gravel, great quantities of which have been dug out for gentlemen's gardens, as well as for repairing the roads. But from the little attention that is paid to the preservation of the upper soil, it is left in a state unfit for vegetation; some of the pits are left as they were dug out, and, consequently are full of water; other parts are covered with furze and coarse pasture. But the growth of the elm and oak timber, upon this common, shews to what a profitable purpose it might be applied. The manor belongs to the Duke of Bedford. To the east, adjoining to Streatham, and in front of the Duke of Bedford's house, is a small common of good loamy soil; but being at present in middling pasture, and appearing only a handsome lawn to the surrounding gentlemen's villas, it cannot be applied perhaps to a much better purpose.

A little out of the road, and to the north-east of Croydon, is Croydon Common, containing 350 acres of mixed soils, light sandy loam, clay and gravel. Some part of it is wet in the winter, but the whole very capable of being effectually drained. Those parts which are not wet produce good pasture; but furze, brambles, &c. are suffered to predominate. Considering its vicinity to so large and flourishing a town as Croydon,

Croydon, whose markets may vie with any other in the county, and its inhabitants of the first consequence for respectability and opulence, many of whom are in want of such land, it becomes surprising that no means have yet been adopted to inclose it, and thereby render it more productive. It belongs to the See of Canterbury.

Waddon Marsh, west of Croydon, contains 150 acres of good land, an inclosure of which might be easily effected, as it is in the hands of only a few proprietors; the pasture is at present only middling. It belongs to the See of Canterbury. Adjoining the last is Mitcham Common, containing 550 acres of various soil, as loam, clay, and gravel; the present produce is only a sour pasture, overrun, in many places, with heath, furze, &c. and although the situation is bleak, and several parts of it wet, yet it might be effectually drained, and produce good crops of grain; for the adjacent lands of the same quality, but in an inclosed state, let at forty and fifty shillings per acre, and there would be no difficulty in letting the whole of this common upon lease at twenty shillings per acre, provided it was inclosed.

South-east of Croydon is Addington Heath and Shirley Common, containing 300 acres; the soil a black land and loam, the whole of which, excepting the summits of the hills, are capable of producing barley, oats, turnips, artificial grasses, &c. and the hills might be profitably planted with firs, &c. It is at present covered with short heath and furze, and cannot be said to be worth more than 1s. 6d. per acre; but if inclosed, would find a rent of from 15s to 20s an acre.

East of Riddlesdown is Hamsey Green, containing about 100 acres of very rich pasture; the soil a deep stapled loam. The manor belongs to Atwood Wigsell, Esq. At a short distance from thence is Wallingham Common, containing 500 acres of deep rich stapled loam, upon a chalk, but very much overstocked; two or three neighbouring farmers receiving the principal benefit from it, having the conveniency of turn-

ing on large flocks of sheep; it is nevertheless very much overrun with furze and heath. The farms in this parish are in general large, about 500l. per annum.

Near the sixteenth mile stone on the road to Godstone, is Catterham Common, containing 300 acres of light sandy loam upon gravel; sweet pasture wherever the furze, fern, &c. is kept under. Between Godstone, and Westerham in Kent, we passed over Lympsfield Common, which contains 480 acres; the entrance of which is sandy loam, but improving very much towards the center, where it is a rich loam, capable of producing all kinds of grain as well as timber, instead of which is found heath, furze, and in some parts beech, birch, and oak coppice wood, all of which thrive well. But the copyholders claiming a right to turn in cattle, as well as a privilege of weeding the wood, is the reason why timber is not suffered to get up. Adjoining to the above is Eden Common, containing seventy acres of wet pasture, which, by draining, levelling the ant hills, and altering the course of a very crooked brook, might be converted into good land, which in its present state is but of small value. Two miles to the south is Stafford Wood, which contains 150 acres; the soil is a loamy surface upon clay. Part of this common wood-land is overrun with brambles, briers, and furze; other parts of it consist of oak, beech, and birch underwood, with some timber of a large size, but by no means under a good profitable system. A few years ago, several were cut down, containing about two loads of timber each tree; a strong proof this, how much it is to be lamented, that the freeholders and copyholders should have a right to turn on an unlimited number of cattle of every description, to the utter destruction of the young and tender saplings. This wood, were it under good management, would yield as fine timber as need to grow. Mr. Eden, the late lord of the manor, was at much expence in planting a great number of trees, which, as his successors have injudiciously failed

failed to protect from cattle, the much greater part of them have from time to time been quite destroyed.

On the high turnpike road to Grinstead in Sussex, and a little beyond the twenty-four mile stone, is Blindley Heath, containing fifty acres of sour pasture; the soil is a deep stapled yellow clay. This common wants draining. One mile from this is Lingfield Common, containing 200 acres of pasture capable of great improvement by inclosing, the soil being a dark hazle mould, and rich loam. Pacon Heath, nearly adjoining, consists of seventy acres of light sandy loam, covered with juniper, furze, and fern.

Felcot Heath, north-west of Pacon Heath, containing 250 acres, covered with heath, &c. the soil a black sandy surface upon loam. Hedge Court Common includes 160 acres of light sandy and gravelly soil, covered with low heath; and joins to Copthorn Common, which contains 750 acres; and producing the same sort of heath as Hedge Court: the upper soil black sand; sub-soil a yellow hungry loam; some of the low parts are boggy, but very capable of being drained, having a brook running through it. The hilly parts would grow the different kinds of firs, particularly larch, beech, and birch; the two latter thriving well in the circumscribing hedge rows. Frogwood Heath consists of 200 acres of light sandy soil, covered with heath, furze, &c.

To the north-west is Horley Common, containing 600 acres of strong loam and deep clay, particularly calculated to the growth of oak timber, and which in this neighbourhood is very scarce. Upon a very nice examination of this common, we find it capable of being turned to the most profitable purposes, and is now suffered to remain in a very neglected state: the nature of the soil being so stiff, and being continually poached during the autumn and winter months by cattle, it becomes so condensed as to hold water like a bowl, and which consequently produces nothing but a sour unwholesome herbage. The inclosing therefore of this common.

mon would effectually remedy this evil. Sheep are here very subject to the rot.

Lowfield and Westfield adjoining, contain 230 acres of light loamy soil : some parts are wet, but dividing them with proper ditches would effectually drain the whole ; it is at present covered with heath, furze, &c. A few sheep and young beasts are occasionally turned on, but so poor and trifling is the herbage that they are but barely kept alive.

Wetherhill, in the parish of Nutfield, is a small common of about sixty acres of wet sour pasture, although the soil is a good loam. Smallfield is nearly like unto the preceding as to soil, &c. and contains about eighty acres.

Outwood Common contains 400 acres of poor land, consisting of sand, gravel, and some loam, covered with furze, heath, and bushes, with a small quantity of young timber thereon ; some parts of it are wet and very boggy, and there have been instances where cattle, which at times have been suffered to remain there, have been lost. This, among other reasons, would be an argument for inclosures.

Red Hill Common, about one mile and a half from Ryegate, contains 450 acres ; the low parts of which are a strong loam and clay, and is at present tolerable good pasture, notwithstanding it is much overrun with furze ; the upper or hilly parts are composed of a light rich yellow loam, and the whole well calculated to produce all kinds of grain in abundance. Its proximity to Ryegate would render an inclosure very desirable.

Ryegate Common is about 150 acres of light loam, covered with furze. Cadbrook, 160 acres of sandy loam, covered with furze.

Holm Wood Common, 400 acres of strong loam and clay, well adapted to the growth of oak, chesnut, and other timber trees, particularly on the hilly parts : the rest might be converted into pasture, &c.

Leith Hill and Hurtwood contain 3200 acres of similar land as the preceding.

Headly

Headly Common may contain about 900 acres of various soils, such as sand, loam, gravel, and clay, and which is at present covered with furze, heath, and fern; it is, however, well calculated for the growth of corn, turnips, and artificial grasses. Walton, Kingswood, and Banstead Commons, which, laying together, and joining to Headly Common, may contain 1500 acres at least. The manor of Kingswood belongs to William Jolliffe, Esq. of Meastham, who has it in contemplation to inclose it, thereby setting a good example to the gentlemen in his neighbourhood. It may not be amiss to observe here, that it might be well worth the notice of the lords of the manors of Walton and Banstead to join Mr. Jolliffe, and inclose the whole under one head. The several parts of these commons, that are hilly, might, with very great propriety, and profit too, be applied to the growth of larch, firs, Spanish chesnuts, beech and birch; and the rest would produce good corn and pasture. At present the whole is covered with heath, furze, and fern, and cannot be worth more than half a crown an acre; but under a proper system of inclosure would find a rental of from twelve shillings to twenty-five shillings per acre.

Sutton Common contains 250 acres of rich loam, some parts of which are in good pasture, and therefore evidently shews to what good purposes the whole might be applied.

Cheam Common, similar to the preceding, is alike deserving improvement, and contains 320 acres.

Ewel Commons and Marsh may contain, together, 350 acres of good loam, upon gravel and chalk, very deserving of cultivation. The marsh land, especially, would make good meadows, if divided.

Epsom and Leatherhead Commons join together; the soils are loams and clay, upon gravel, and may contain 1200 acres at least; the much greater part is covered with furze, brambles, hawthorn bushes, large quantities of
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hornbeam,

hornbeam, and other pollards. Other parts of them are a sour wet pasture. It is much to be lamented, that a tract of land, such as is here described, adjoining to the town of Epsom, and equal in quality to any of the circumadjacent inclosures, should at this period remain in such an unprofitable state. We have no difficulty in saying, that this land is capable of yielding all kinds of grain and timber; and, if inclosed, would fetch from 15s. to 35s. per acre. On Epsom Common is a mineral spring, which some years ago was famed for its efficacy in curing various diseases; at present it appears to be in disuse, and going fast to decay.

Fetcham Common contains 250 acres of light loam, covered with furze, heath, &c. and joins to Bookham Common, which is a large tract of land at least 800 acres, of light loam, clay, and gravel, covered with heath, furze, bushes, and pollards; at present in a very unproductive state, but capable of growing good corn and timber.

Clandon Common measures nearly 150 acres, and is composed of light loam upon chalk, covered with heath and furze; the down land is not included in the 150 acres. It may be worth observing here, that the herbage on this down is short and sweet, affording fine food for sheep; but in many places, the *bromus pratensis* makes its appearance, which, being a harsh wirey grass, no cattle will touch it, consequently as the seeds are not prevented from attaining proper maturity, so they are scattered to an immense distance by every wind, to the manifest injury of every good pasture in which they may chance to fall. It would be therefore good policy to destroy every vestige of so useless a plant. We have not observed it to be an indigenous plant of any other part of the kingdom.

Cobham Common, including Chatley Heath, Downside Common, Cobham Tilt, and Fair Mill, may contain 2000 acres, the whole of which is now in a state of inclosure, an act of parliament having been obtained for that

purpose. Twenty acres of this common were sold, in order to defray some part of the expence, and produced the sum of 1260l. This surely will prove to lords of manors, and others, concerned in commons, how much value they are of, in a state of inclosure; and requires but little inquiry and exertion, to convert every unprofitable acre in this kingdom to the greatest possible advantage. No part of this tract of land is superior, if equal, to many of the commons before described, in point of soil. Three hundred acres of this waste are allotted to the poor, in lieu of their commonage. It is at present covered with short heath and furze, and cannot be said to yield more than 1s. 6d. per acre.

Pease Marsh, between Guildford and Godalmin, contains 803 acres, partly loam, partly clay, and partly marl. Upon the skirts of this common are some brick kilns, and the clay is dug out for the purpose of making bricks. There are to be seen on some parts of this common such a number of ant hills, that it is really dangerous to ride over it. From the total neglect of this valuable common, the cattle that depasture thereon are almost starved; it is, however, so much coveted by the inhabitants of Godalmin and Guildford, that it would, in an inclosed state, find a rental of from fifteen to thirty shillings per acre.

Shakleford Common contains 150 acres of light loam; at present it is covered with heath, furze, &c.

Addlestone Common contains 150 acres of rich loam; at present it is good pasture, but is much in need of draining.

Hersham Common contains 200 acres of good loamy soil, covered with heath, furze, &c. The wet parts of this common might easily be drained.

Esher Common is composed of 500 acres of loamy soil; an inclosure is here very desirable, as during the winter months it is very wet, and the herbage, in consequence, spoilt. The common ditches of an inclosure would effectually drain it, and increase its value nearly twenty shillings per acre.

Kingston Common contains 430 acres, at present covered with furze, brambles, &c. As the soil is a good loam, upon gravel and clay, it is very deserving of being inclosed.

Norbeton Common contains about 320 acres of a similar soil.

Wimbledon and Putney Commons adjoin, without any division, and may contain 1000 acres; the soil is various, consisting of stiff clays, loam, sand, and gravel; 200 acres of these commons may be covered with hornbeam and oak, pollards and brush woods, &c. the rest is overrun with furze; but where any considerable portion is cleared, the pasture is sour and unwholesome, for want of proper drains to carry off the water. The great road from London to Portsmouth, passing over these commons, the easy distance from the metropolis, but above all the number of gentlemen's seats which nearly environ them, and the example which the present Earl Spencer has shewn, both as to the manner and the effect of covering such parts as might be agreeable, with plantations, it is only matter of surprise, that they should so long have remained in their present uncultivated state.

Barnes Common may contain 200 acres of light sandy loam upon gravel; some parts of it are wet in the winter, and covered with furze. Part of this waste was inclosed for the use of the workhouse, and it now produces all kinds of vegetables in great abundance, together with corn and artificial grasses.

Wandsworth Common, consisting of about 350 acres of good loamy land upon gravel, is wholly covered with furze, well adapted to the growth of grain and timber.

Battersea and Clapham Commons adjoin, and compose but a few acres, say about fifty, of very light loam upon gravel, in many parts very shallow, and consequently very unfavourable to horticulture; it, however, yields an abundance of gravel for the roads and gardens, fern and furze for the bakers, and under those circumstances it may be as productive in its present state as if it were inclosed. It affords an agreeable and

safe retreat for many of the most opulent merchants and bankers of the city of London (perhaps of the world), which its contiguity to the metropolis also makes desirable, and who have fixed their residence here. It is not, therefore, to be wondered at, that these commons should be circumscribed, and that the price of land, otherwise not worth five shillings per acre, should have found a value perhaps no where paralleled out of the metropolis. The only thing wanting to complete the scenery of the situation, would be to destroy the greatest part of the furze and fern, and lay it down to grass; to intersperse evergreens among those forest trees that are already planted there, and to scatter a few more clumps upon a better scale; the whole would then have the appearance of an ornamental paddock.

HEATH LAND.

THE first of any considerable extent, is situate about four miles south of Guildford, called Black Heath; containing 1000 acres of different coloured sands of various depths, producing nothing but short heath; its situation is high and exposed, and the greatest part so poor, that it is unfit for anything but plantations of firs, but especially Scotch and larch. There are parts of it in which beech, birch, and chesnut would grow well.

Munsted Heath contains 220 acres of light sandy loam, covered with heath and furze, capable of being applied to various agricultural purposes; and its contiguity to Godalmin would render it of great value.

Hydon's Heath contains 450 acres, chiefly sand and gravel; some parts sandy loam. The skirts would produce good corn.

Wormsley and Hamilton Heaths nearly of a similar soil, and contain 350 acres.

Hind Head contains 3100 acres, chiefly sandy soil, although

many spots are loamy, the whole of which might be most profitably planted.

Frencham, Thursley, and Whitby, contain 5800 acres of deep sandy soil.

Farnham and Crooksbury contain 3700 acres of deep sandy soil. The valuable plantations of firs on these heaths demonstrably prove to what a profitable purpose they may be applied. Here we have no occasion to bring in aid the use of argument, to prove the consequences of planting barren heaths. The facts speak for themselves, and therefore we cannot do better than bring them to view. Twelve acres on Crooksbury Heath were planted in 1776 with Scots firs of four years old, at only four feet apart; the ground was no ways prepared, but the holes were simply dug, and the plants put in. In the year 1788 they were thinned out, being then about the height of fourteen feet, which produced ninety-six trees, and were worth eight pound per acre; the thinnings were sold for hop poles, and the branches were made into havins, provincially bairns, for burning of lime. It must be here remarked, that a Mr. Giles of Farnham has for years used no other poles for hops than firs, and which he has found to answer full as well, if not better than ash or alder; those he has in present use have been so for nine years, and at this time are perfectly sound; he has also attended with much accuracy to their durable qualities, as applied to the purpose of poles, and he finds that the larch is the best, the Weymouth second, and the Scots and spruce the least. The second thinnings are now taking place, and the trees converted into scantlings, rafters, and for other internal purposes; they are about forty feet in height. The number of trees at present standing on the twelve acres are computed to be 18,531, and are valued at the sum of 573l.

Tuxbury Hill contains 600 acres of similar soil.

Bagshot Heath, including Romping Downs, Frimley, Burlingame, Chobham Ridges, Surrey Hill, Windlesham, Kingshill,

Kingshill, Woodham, Ham, Haw, Horse Hill, Pirford, Woking, &c. contain 32,000 acres, the whole of which may be said to be covered with short heath. Upon traversing these cold and exposed wastes, we saw only a few starved animals unworthy the name of sheep. From what circumstance the title of Bagshot mutton has derived its name, is perhaps now very difficult to be discovered: certain it is, that no animal can live upon these wastes in their present state; probably ere long the proprietors or lords of manors, and others therein concerned, may, in consequence of Basingstoke Canal passing through an extent of sixteen miles from Romping Downs, to Woking and Weybridge, find it their interest to apply some parts of this considerable waste to some useful purposes of agriculture. It was in contemplation some years since, to inclose a tract in Windlesham parish; but we could not learn the exact reason for its not having been carried into effect.

Weybridge and Walton Heaths contain 3500 acres, at present covered with furze: many spots may be found capable of producing good corn, and the highest and most exposed hill would produce timber; witness the Scotch firs, &c. on Saint George's Hills.

REVIEW OF THE FOREGOING.

IN looking over the tract of country before particularized, three things appear indisputable; the first is, that there does absolutely exist in this county the quantity of land as described, (as near as can be ascertained without measurement) at this time in commons and actual waste; and the second is, that in consequence of this waste, just so much grain as a certain portion of this waste would, in a state of agriculture, produce to the community, we are obliged to our neighbours on the continent for; and lastly, that just so much labour as the cultivating this portion of waste would require, the poor are deprived of; and, by consequence, is a material loss to population.

From

From very authentic documents in our possession, it appears, that the actual quantity of grain brought into this country, as well as exported, on an average of three years, under the heads of barley, beans, oats, rye, wheat, and pease, are as follow:

IMPORTED.

Barley.	Beans.	Oats.	Rye.	Wheat.	Pease.
69,793	30,245	842,229	30,561	217,038	3,445

FOREIGN CORN EXPORTED.

277	1,049	4,291	909	14,933	398
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BRITISH CORN EXPORTED.

15,994	9,055	14,106	5,660	85,501	5,685
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CORN IMPORTED EXCEEDS THE EXPORTED BY

43,522	20,141	823,832	23,786	116,604	—
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N. B. The quantity of pease exported exceeds the imported, by - - - 2,638 quarters.
Malt exported, - - - - - 30,426 ditto.

	Quarters.
Barley brought down,	- - 43,522
Beans, - - - - -	- - 20,141
Oats, - - - - -	- - 823,832
Rye, - - - - -	- - 23,786
Wheat, - - - - -	- - 116,604

1,027,885 grain imported, exceeding the exported.

Quarters.	
By - 2,638	pease exported,
30,426	malt ditto,
—	- - - - - 33,064 exported.

994,821 balance in favour of the imports:

	Acres.	Acres.		Qrs.	£.	S.
Waste, - -	$\frac{1}{2}$ of 96,000	= 48,000	at 3 qrs. per acre,	= 144,000	a 276.	= 97,200 0
Common field, $\frac{1}{2}$ of 12,000	=	at an average of 31 bl. to the acre,	= 11,625	a 278.	= 15,693 15	
				83,625	=	£.112,893 15

N. B. Thirty-one bushels is the average produce of grain, per acre, in the common field land which there are about twelve thousand acres.

In order to make it all as clear as possible, I have brought it into figures as above; by which it will appear, that having subtracted the foreign corn exported, and the British corn exported, from the whole of the corn imported, the remainder is left by inference for home consumption. We then say, that if the consumption exceeds the produce of this country by 994,821 quarters of grain of different sorts, as appears by the table, just so much the more necessary does it behove us to take such immediate steps as may make every uncultivated acre suitable to the growth of corn, (as well as to remove every impediment that may stand in the way of making the whole) as productive as possible. Suppose for a moment, that out of the 96,000 acres of wastes and commons which are now to be found in this county, you take one fourth, as being of sufficient quality to produce good corn, and that each acre would upon an average yield three quarters of wheat, barley, rye, or oats, &c. (and which may be near the mark, as the present inclosed and common fields average about four quarters) that would amount to 72,000 quarters, valued at 97,200*l.* to which we add one fourth, for the increase of the produce by inclosing the common field land, and which we think ourselves warranted to take, being something less than the proportion of rent every where offered to us by the present occupiers of those lands, and that will yield 11,625 quarters of corn, which together make 83,625 quarters of corn over and above what is grown in the county of Surry, and which, upon the average price of all the grain together, (i. e. 27*s.*) will net the sum of 112,893*l.* 15*s.*

From this statement, and as the Board will necessarily be put in possession of all the waste and commons, as well as common field land in this kingdom, they may with sufficient accuracy calculate the quantity of grain which this country ought to grow, (with every impediment out of the way) *communibus annis.*

But lest it should be said that we are too sanguine in our calculations, let it be understood, that they are made not in

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the closet only, but after a very minute examination of every spot described. But admitting that we are too confident in our conjectures, take one half from our supposed produce, and see if that is not an object of national concern.

THE MANNER IN WHICH THE LAND IS POSSESSED.

IT does not appear, that in this district the land is generally possessed by large proprietors; and its contiguity to the metropolis, as well as the salubrity of its air, may contribute in some degree to produce this effect: it will not, however, admit of a question, but that there are some very large proprietors. However, as that is no criterion, it may be taken for granted, that there are perhaps few counties where the land is possessed in a fairer proportion. Neither are the farms occupied in an extreme, as to extent. Perhaps it may be said, that a great many are too small, being from thirty to forty pounds a year, and very few exceed from 3 to 400 pounds, probably 130 pounds a year may average the county. It is generally observable, that upon these very small farms, every species of bad husbandry is practised; foulness of the land, the want of ability to manure the soil, a poverty of produce, and the occupation in a state little better than that of wretchedness and misery, too strongly evinced by their more wretched habitation.

LAND HOW EMPLOYED.

FROM the natural formation of the county of Surry, as well from the information which this Survey has furnished us with, it clearly appears, that the arable greatly exceeds the pasture land; and considered in that light, it is not to be expected, that men will pay so much attention to the quality of their

their pastures, as to be at all curious about the introduction of new grasses, however strongly recommended by their peculiar good properties; and which in their opinion may not be considered as even secondary. The only pastures of any extent, are those which are to be found in the neighbourhood of the Thames, and these not in the best state of improvement; indeed very little fine hay is to be met with in any part of the county.

LIVE STOCK.

WITH respect, however, to the stock, we shall beg leave to say a few words. The sheep most prevalent, until of late date, were the North Wilts, (which are distinguished at Smithfield by the name of the Wiltshire horned sheep) and Dorsetshire, with a few Lancashire rams; but the South Downs are exterminating the former very fast; at least among those farmers whose ideas are not cramped by prejudice, and otherwise wedded to old customs. The South Downs and Dorsets too are found to be much more hardy, better nurses, more tractable, less given to rambling, and to bear hard driving to the fold better. The flesh of the South Down is allowed to be as fine, if not finer than that of the so long famed Norfolk. The wool of the South Down is found to be not quite so abundant as the Dorset, but equal to the Wiltshire, which is a much larger animal; the South Down yielding about four pounds to the fleece, and the Dorset between four and five pounds. But then the quality of the wool of the South is superior to the Dorset, and exceeds the Wiltshire at least from four-pence to sixpence in the pound weight. The Norfolk and Suffolk, which at one time pretty generally prevailed in many parts of this district, have with good reason made way for the two other kinds before mentioned.

tioned. The objection which many intelligent farmers have started against them, is not, as may be supposed, against the quality of the flesh, in which they allow them a superiority, (but with what reason they are at a loss to account) during the cold months; but because in that part of the county where common fields prevail, it was not possible to supply them with green food to keep them on; (and that is one objection also against the Wiltshire) and consequently the other sorts being more hardy, would live tolerably well on middling food, and necessarily well on better, and consequently they would be much behind the others in condition for sale. The mutton of Bansted Downs, in this county, has been long famed for its excellent quality, and upon examining the cause with every possible attention, it appears to proceed from the fineness of the pile, which exactly resembles that which grows on the South Downs. Perhaps there may be something in the air and the exposure; but certain it is, that these Downs are constantly kept very hard stocked, which by keeping the herbage down short and sweet, it will unquestionably support a greater number, than when it is suffered to get long, which inevitably causes it to get thin at bottom. The herbage is mixed with large portions of the English white clover, trefoil, and not a little of the *thymus serpyllum*. Too much cannot therefore be said in favour of this sort of stock; and when that period arrives, which we hope is not far distant, that the common fields shall be inclosed, and that great portions of green meat can every where be raised, the farmer will be enabled not only to increase his stock, but to fold more land—a practice which no one ever doubted the good effects of, especially since it frequently happens that a farmer cannot keep cattle sufficient to provide dung and other manures for his arable, and occasionally for his pasture land. This practice of folding must therefore tend to increase the growth of every species of grain.

House

House Lambs.—Few counties in England produce so many house lambs as Surry : thousands are annually brought to the London markets, and it forms one of the most ingenious, if not the most profitable branch of some of our Surry farms. That very able agriculturalist, Mr. Duckett of Esher, ranks foremost in his management of this very delicate and useful article : he rears upon an average 500 a year ; and for this purpose the Dorsetshire ewes are the only sort he keeps, as he considers them the best nurses, and producing lambs all the year. The growth of green food, such as rye, clover, tares, and turnips, are absolutely necessary in this important branch of farming, and perhaps are cultivated in a greater extent upon the small farms in this part of the county than in any other. Further particulars relative to Mr. Duckett's agricultural management we could not learn, as he had previously communicated the same to Mr. Arthur Young.

Cows.---In the vicinity of the metropolis there are about 700 cows kept for the supply of the villages, and the parts adjacent to London and Westminster, with milk. The cows are principally from North Allerton in Yorkshire, and from the county of Durham, and are brought to Northampton, where the jobbers and the keepers of these cows attend to purchase what they want. They are of a large size, handsomely made, and distinguished by small heads and short horns. The average cost may be said to be about twelve guineas, but they are every year getting dearer. They yield one day with the other, while in milk, one gallon, which, of their measure, is understood to be eight quarts ; and this they sell to the milk people who carry it about, at fourteen pence per gallon. These people retail it out to the house-keepers at three-pence per quart ; and supposing that they sold it at that price, pure and not diluted with water, they would realize upwards of seventy-five per cent. But when it is understood, that a large portion of water and other ingredients are mixed with

this milk, their profit must be immense ; and the quality of the milk, at the best perhaps not very rich, proportionally bad. In the winter they are fed upon certain proportions of turnips, grains, and hay, (the grains from the distilleries are much better than those from the breweries); and in the summer, upon grass, tares, and rye. The turnips are fetched from all parts within the distance of fourteen miles, and the price may be averaged at about seven guineas per acre, according to the situation, distance, and crop ; but if the latter is good, and does not exceed five or six miles, the price is eight guineas per acre ; the sort is generally what is understood by the Hertfordshire white round and the Norfolk turnip. Rye for the summer food, yields about six pounds per acre ; and tares, which are a medicine as well as fine food for them, costs seven pounds an acre. Potatoes are beginning to be cultivated upon a large scale, the stalks and leaves of which, while young and tender, affords good nutriment, and if gathered young, is said not to injure the growth of the root ; of that, however, we want better proof. But the great end for cultivating them, is to supply the means of food after the turnips or cabbages are all off ; and before the grass, rye, and tares are come in. This interval they are obliged to fill up by additional portions of hay, which at that season is generally at an enormous price. It does not appear upon a very general inquiry, that cows of any other description, or from any other county, produce so regular a flow of milk, under that course of treatment which they are obliged to give them ; and consequently none are so well adapted to their purpose. As we do not find that there are any particular dairies in this county, it would be needless to attempt the description of the sorts of cows which are to be met with throughout the district, in the possession of the several farmers, as they are as various as their places of abode.

Calves.---No inconsiderable number of calves are suckled about Esher, as well as other parts of the county; but nothing new in the management has transpired.

Oxen.---This article of stock would not have made any figure in this Report, but for the spirited efforts of a few gentlemen. We shall therefore beg leave to introduce to the notice of the Board, a mode of fattening them, which has lately been adopted by Messrs. Hodgson and Co. malt distillers at Battersea, and by William Adam, Esq. of Mount Nod Farm, near Streatham, under the direction of Messrs. Nunn.

A few years ago, the former of these gentlemen purchased the horizontal mill, which some years since was erected near Battersea Bridge, for the purpose of grinding colours, but which they have converted into a corn mill, by altering the machinery, and have thereby rendered it the most complete thing of the kind in the kingdom. Nearly adjoining to this mill they have erected a very large and extensive distillery, and, almost circumscribing their premises, a range of houses have been built, of about six hundred feet in length, by thirty-two feet in width, for the oxen: these houses are divided longitudinally into separate stalls for each beast, by a rail or bar placed between them, three feet six inches asunder.—The oxen are placed in two rows, standing, with their heads opposite each other; and in the middle between the two rows is a passage six feet wide, the whole length, and one at each end, of the same width, where the cattle go in and out: latterly they have introduced an open wooden trellis, or grating, made strong, which is placed on blocks five or six inches thick, raising the grating above the pavement. The intention of this trellis is to keep the animals from the pavement, that they may not only lie dry, but also that they may with greater facility be kept clean; which, as often as they want to do, the soil is drawn out from under the grating, by means of a broad hoe, and likewise that their feet, naturally tender, may be kept from being bruised by the
hard-

hardness of the pavement, for whenever that happens, they do not thrive. For every hundred of oxen two men are kept, whose business it is to feed and to clean them. The allowance is one bushel of grains put into a triangular trough filled with wash, to each, and one truss of hay per diem to every fifteen; to which is added, sometimes, some of the meal dust that flies from the malt in grinding. Their time of buying them in is about September, at which period they are generally brought to Kingston, and other west country fairs. The number which they there buy is from four to five hundred, and for these they pay an average price of about eight pounds per head. The sort they prefer most, are the largest of the Welsh and Herefordshire breed, which arrive when fattened to a middle size. The Scotch they think too small, and the Yorkshire too large. After keeping them from fourteen to sixteen months, they are in general sufficiently fattened for sale, and are sold to the carcass-butchers, at an average of sixteen pounds per head. Mr. Hodgson's communications, as well in this as in other points, were at once liberal, friendly, and gentlemanly.

The buildings which Mr. Adam has erected for the same purpose, are upon a very different construction, and exhibit a great undertaking well designed. There is an engine fixed up, which, from the multitude of its operations, and the simplicity of its mechanical powers, is beyond comprehension. We shall therefore only relate what it effects. It raises water from out of a well one hundred and seventy feet deep, into a large reservoir, which water is afterwards conveyed along pipes through the whole of the buildings, by the side of the troughs; and by means of brass cocks the water is let into any or all of them in a few minutes. The same machine cuts chaff, splits pease and beans, threshes wheat and other grain, which it cleans also; it likewise grinds linseed, by means of two mill-stones of very large dimensions, which, by a very curious contrivance, are fixed on a frame, and by their revolutions grind the seed which is used

for feeding the cattle instead of oil cake. This engine is worked by four horses. Adjoining to this machine is a range of buildings, conveniently constructed, and sufficiently capacious to feed six hundred bullocks, and which at this time is nearly full; they are of different sizes, and from different parts of the kingdom; are regularly fed with one pound of linseed, one bushel of grains, one bushel of chaff, and a quantity of wash from the distilleries, all mixed together, and one truss of hay between eight or ten. This is their daily food all the year round. The price, when bought in, or sold out, we could not learn; but certain it is, that according to the species of the beasts, there are some of the finest and fattest we ever saw. They also feed hogs; but not having yet made any great preparation for them, their number is but few.

On this farm, this gentleman has introduced, upon a pretty large scale, the drill husbandry, having at present drilled about one hundred acres of wheat. This, together with draining a strong and wet clayey ground, will open a considerable field for improvement: the whole is conducted with great judgment, without considering expence. Possessing therefore so much merit, it is to be hoped he will be amply repaid.

Hogs.—In addition to the stock of the country before described, we must not lose sight of a source of wealth of which the Board, perhaps, has little or no conception: it is in the article of hogs, which, considered as a point of national economy, is of very great importance to this country. Formerly, that refuse which now affords some part of the food for thousands, and they in their turn giving food to thousands more, was let off into the Thames, or into other places proper to receive it. But as the exigencies of the state required, from time to time, supplies of money, the then government found it expedient to draw a revenue from that

spirit, which the distillers with much ingenuity extract from malt, &c. and this duty has at various times been advanced to its present height. The profit which the distillers thought themselves in fairness and equity to be entitled to, being thus reduced, an expedient was hit upon for converting that refuse or wash into a food for fattening hogs. The number which in this county alone are annually fattened, shews to what an extent it is carried, and, as a branch of commerce, is of considerable value : it is, besides, of material benefit to those counties from whence they draw their supplies ; and inasmuch as it makes a part of agricultural economy, deserves every encouragement that can be given to it. There are also great numbers fed in the starch yards, which we shall distinguish from those of the distilleries ; but the comparative difference in quality we cannot ascertain with sufficient accuracy to ground our report upon. We shall therefore only say, that both have no small degree of merit for conducting so much to the supply of the country, as well as to the welfare of individuals.

At Messrs. Johnson's distillery, at Vauxhall, no fewer than three thousand hogs are annually fattened ; they are bought in at fifteen months old, or thereabouts, at an average price of fifty-five shillings ; are kept with all imaginable care and cleanliness, in one uniform progressive state of increase, for the space of eighteen to twenty-six weeks, when the major part of them are sufficiently fattened for sale. As they are of different breeds, and the produce of different counties, so their progressive qualities are always strikingly characteristic. It may be then asked, " if they differ so much in quality and size, why not fatten those sorts only that are found to be the best ? " The answer is, because a sufficient number cannot be obtained of that age ; and therefore recourse must be had to hogs of a younger age, as well as to those of an inferior quality. When fattened, they are sold, and realize the prices marked against each in the table,

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upon an average. It must be observed, that no pains are spared to keep them clean and sweet, which the superior construction of their very extensive premises enables them to do. One-half of their time they are brought forward with a certain quantity of wash and grains, and the latter part with a portion of meal dust.

TABLE OF HOGS AT MESSRS. JOHNSON'S DISTILLERY.

From whence brought.	Age bought in.	Value when bought.	Weeks kept.	Weight when fattened.	Value when sold.	
Shropshire, Herefordsh. Gloucestersh. and Berksh.	Fifteen months old,	55	18 to 26	Stone. 32 to 35	£. S.	£. S.
Norfolk, Suffolk, Essex, but not of the breed of that county,	younger, Fifteen months old,	42	do.	21 to 24	2 15 to 3	3
Yorkshire,	do.	60	do.	34 to 36	4 15 to 5	10
		46	do.	21 to 28	3 0 to 3	10

It is necessary to be here remarked, that the Norfolk and Suffolk are the soonest fattened, but they do not come to so valuable a shape to make bacon; the Yorkshire are upon the whole the handsomest make, and the real Essex breed of the least value.

At Messrs. Benwell's distillery, at Battersea, are annually fattened from three to four thousand hogs. The same progressive treatment and the same consequent success mark the practice of this house; and upon inquiring whether any improvement could be made by a mixture of the breed, it was with satisfaction that we learnt, that Mr. Benwell's predecessor, Mr. Bell, had some years ago sent a great many boars and sows from Berkshire into Yorkshire, which had succeeded so well, as greatly to have improved the breed, and for which that gentleman deservedly received the thanks of many of the principal farmers of that county.

At Messrs. Bush's distillery, at Wandsworth, there are about two thousand annually fattened. They give the pre-

ference to the Berkshire breed ; and they get some excellent stores of this breed from the neighbourhood of Beverley, in Yorkshire, which corresponds with the accounts given by Mr. Benwell, as well as by Messrs. Johnsons, of the superiority of their shape. It is the opinion of these gentlemen, that if the Shropshire stores came to hand in better condition and more age, they would be certain of coming to a sale ; consequently there must be a certain degree of good quality attached to them : they are near six months in getting them from twenty-five to thirty stone ; and from the present high price of corn, this trade is by no means considered profitable to them.

At Mr. Stonard's starch manufactory, upon an average of four years, they have fed, from the refuse of the manufacture, two thousand and seven hundred per annum ; but as their food is of a cold and poor nature, and in no way equal to the distiller's wash and grains, they are obliged to give them a very considerable quantity of beans and pease, amounting to between nine hundred to one thousand quarters communibus annis. They have generally from seven to eight hundred at a time in fattening.

At Messrs. Randall and Suter's starch manufactory are fattened, after the same manner, between six and seven hundred annually ; they buy them in at one year and a half old, and in six months they are fit for sale, when they fetch from four to five pounds each. The sorts which are made choice of by these gentlemen, are in every respect the same as those which the distillers fatten. The greatest part of these stores are brought to Finchley, in Middlesex, where they are sorted and put into sizes by the salesmen, before they are sent to the respective feeders : these, as we said before, are principally Yorkshire, Shropshire, Berkshire, Lincolnshire, and Leicestershire. These which come from Norfolk, Suffolk, and Essex, are brought from just after the harvest, to the month of October, to Romford market.

The custom about London differs from that in the country as to the weight of the hogs: in the former it is the net weight of the carcass, not including the head, feet, or flea, as is done in the latter. When malt is at a moderate price, they are supposed to pay to the distillers about two shillings per week per head. It is somewhat singular, that with so much knowledge as these gentlemen must have acquired respecting these animals, no method has yet been discovered for ascertaining their ages, and therefore they are obliged to buy them in at a venture.

From what has been said upon this subject, it will appear, that the number of hogs fed in the manner described, in this county, upon an average of four years, is upwards of eleven thousand seven hundred, valued at £46,215.

It remains now for us to return our particular thanks to those gentlemen before named, for the very handsome manner in which they furnished us with the materials to draw out this report: our especial obligations are due to Mr. Benwell, who, besides aiding us in the subject more immediately within his department, took particular pains to procure for us the number of acres of common acid land within his parish, as well as the nature of the soil, &c.

WHETHER ANY OF THE LAND IS WATERED.

IT does not appear, that watering of meadows is any where practised in this county, of sufficient extent to deserve particular notice: and indeed such is the nature of the county, that very few parts of it are capable of so desirable a practice at all; that which is watered does not appear to be done according to any new system, but simply conformable to the ideas of the possessor.

IF THE LAND IS EMPLOYED IN HUSBANDRY.

IN the environs of London the principal crops in use are rye, tares, clover, and turnips: these are chiefly consumed as green meat, and bear very heavy prices. In the more inland part, wheat, barley, oats, beans, pease, lucerne, rye-grass, and lately upon the Downs, very large quantities of saint foine, which is found to answer very well. In the neighbourhood of Mitcham, several acres are planted with various kinds of physical herbs, such as peppermint, spearmint, baulm, lavender, hysop, penny-royal, sage, horehound and tansey, together with a great variety of herbaceous plants, which are brought to the London markets, and are readily bought up, and wherever the land suits them, produce very large profits. Potatoes, and in the deep sandy loams near Chertsey and Woking, very considerable portions of carrots and parsneps are grown for the London markets, as well as for the seeds; but not, that we can find, for the feeding of cattle.

WHAT IS THE ROTATION OF CROPS.

ACCORDING to the common field husbandry of this county, and we believe it is nearly similar in other counties, at least it is so of those through which we have had occasion to travel, and thereby to notice the practice, that very little or no variation at all could take place; and therefore wheat, barley, and oats, have been the uniform routine, and their chief aim has been to get the wheat crop round, be the ground rich or poor, shallow or deep. The custom of each manor in the arable lands, for the most part, was to lay them in three common fields; and in so doing, they were enabled to pursue a course of wheat, barley, or oats; and the third remained in fallow. By this practice every idea of turnips, clover, and other artificial grasses, was out of the question. But as mankind became more and more enlightened, finding the bad ef-

fects of this sort of husbandry, and being precluded the advantage of winter crops; seeing also the absurdity of fallowing, they wisely made an agreement among themselves, (wherever they could possibly effect it) and changed somewhat of the mode, by the introduction of the artificial grasses. Having, however, no opportunity of cross ploughing, (which every intelligent farmer deems so necessary) by reason of the narrowness of the slips into which common field land is generally divided, they are prevented even in the summer from making as much produce as they otherwise would do. It will not, we presume, admit of a doubt, that if turnips, clover, and other artificial grasses can be introduced in a due course of husbandry, but especially pease, beans, or potatoes, that they are the best preparatives for wheat, that can be desired; for, as they are either sown or planted at certain considerable distances from each other, row from row, it enables the good farmer to hoe his ground as often as he finds it necessary to the destruction of the weeds, the loosening and pulverizing the soil, and thereby preparing it in the most effectual way for any succeeding crop.

FALLOWING CONSIDERED.

WHENEVER it is in the power of the farmer to use his discretion in a due succession and change of his crops, we mean only such as is consistent with good husbandry, we are fully of opinion, that fallowing is altogether, and absolutely unnecessary, and is just so much, as that ground ought to have produced, lost to the community; and for the strongest and best of all possible reasons, “that lay the ground up in whatever way you please, cleanse it in the most effectual manner that you can, nature will not suffer it to remain inactive, and therefore it generates all kinds of weeds, which two or three years of successive good husbandry are barely sufficient to eradicate;

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West of the 1850s

turned over a certain portion of the soil that is found under ; the dung is mixed with it, together with whatever soil can be collected from ponds, or the bottoms of ditches. These, by repeated turnings and expositions, make a body of manure of very considerable value. This is provincially called a mixen. Where the situation will not admit of the dung being laid on the waste, the next recourse is to the head land. With this manure they dress their land for wheat.

WHAT ARE THE USUAL SORTS OF PLOUGHS ?

HAVING minutely examined the implements of husbandry used in this county, nothing striking appears. The ploughs in use at this time, in most districts, are nearly similar to those that were used by their grandfathers, and differ only as whim or custom has more or less prevailed. The more customary ones, however, (where the new husbandry has been introduced, and which we beg leave here strongly to inculcate into the minds of every intelligent farmer, as by much the best mode of delivering the grain, is Cook's drill machine, and the best hoe is Maedougale's ; these are by far the best machines in present use) are the Kentish turnwrist, the Rotterdam and Duckett's skim plough, the swing plough, and wheel plough. A horse hoe, which we have used for several years in hoeing fields of pease, beans, and other articles intended for seed, and which we have uniformly found to answer, we have given a plate of, for the satisfaction of the Board of Agriculture.

WHETHER OXEN OR HORSES ARE USED ?

THE few oxen that are to be met with in agricultural employments, are scarce deserving notice, and therefore it follows, that horses are the favourite, the quality of which may vie with those of any other county ; and either evince the
property

property or the pride of the proprietors. It is, however, much to be lamented, since oxen will unquestionably, in the field, do as much work as horses, are by proper training full as tractable, cost in the first instance less, consume less provender, and are of considerable value when they are got old and incapable of doing so much work, that they are so much out of use.

WHAT IS THE USUAL SEED-TIME AND HARVEST ?

TO enter into the particular periods of the seed-time and harvest in this county, would be to give the description of each particular district; it is sufficient for our purpose to say, that in that part of the county where the soils are stiff and difficult to work, every intelligent farmer will necessarily take every advantage of the weather, and the state of his soil, to sow his grain: in like manner, where the land is more pliable and light, they seldom lose sight of the first rains in September and October, to sow the wheat. By so doing, there is sufficient warmth in the ground to make the seed vegetate speedily, and thereby attain that strength so necessary to resist any check which a severe winter may produce. It will be needless to say, that there are circumstances and situations in which wheat is sown as late as the middle of December. But surely these must have arisen from some unforeseen cause, and not the effect of choice; for we have never yet met with any thing like a specious argument for such a practice; and it must be evident to the meanest capacity, that to sow grain at so late a season as this, (which, if the land is stiff, must necessarily be much chilled, besides the almost impossibility of sufficiently covering the seed) must subject it when just sprung up, and in all the tenderness of infancy, to the wind's cutting blasts; to say nothing of the great number of plants which the frosts will assuredly from time to time throw out of the ground. This therefore makes a part of bad husbandry.

husbandry. The same argument, somewhat differently applied, will hold good as to the barley and oat season. From the first week in March, to the second week in April, is, as near as can be collected, the time which these grains are usually sown. It would be folly in us to lay down any general plan to regulate these several sowings, because he must be a very bad farmer indeed that will lose sight of the fittest season for depositing his seed; and that period is most proper which is neither so early as to be affected by frost, nor so late as to be liable to suffer by a dry season. The exact quantity of seed of each grain to be sown on an acre, may very nicely be ascertained by that very useful machine, the Rev. Mr. Cook's drill. But as this proves nothing in answer to the question, we beg leave to say, that in the broad-cast husbandry, the quantity sown per acre, is about an average of two and a half bushels of wheat, varying from little better than two and a half to four and a half; of barley, three bushels; oats, five bushels, computed by the Winchester measure; for it certainly is not the charging of the land with a large quantity of seed that makes it the most productive, but (next to the proper preparation of the soil) the exact distribution of just such a portion as enables each plant to derive its due quantum of nourishment from sun, air, and soil. Surry is by no means a barley county, yet in particular districts, what it does grow, is good, and not unfrequently fine. The harvest differs but little with the other neighbouring counties, unless indeed we except the environs of London, where it is rather earlier, and which the great number of people to be found at that season, enables them to get in with expedition. And this is the period of the year when the want of hands is a very serious evil, and which, we are convinced, inclosures would tend greatly to remove. The average produce per acre may be thus computed: wheat, twenty-three bushels; barley, thirty bushels; and oats, thirty-six bushels;

although in some parts, eighty bushels of oats have actually been produced from several acres.

WHETHER LAND IS INCLOSED ?

IN reply to this question, we have only to say, that the county is composed of a proportion of inclosed, as well as open fields, the result of which is sufficiently explained in the answer to the rotation of crops. But the advantages that have been found from inclosing land, must be looked for in some other county, for in no one circumstance is the county of Surry so much behind, as in that under consideration; and therefore the increase of rent, quantity or quality of produce, improvement of stock, &c. must remain to be proved. But we have in another place shewn, that the farmers invariably say, that if they give at this time twelve shillings per acre for their common field land, they would for the same inclosed, with great pleasure, give eighteen shillings, and so in the like proportion of rent as they now pay.

The size, and nature of the inclosures, is answered by the preceding.

The increase or decrease of population by inclosures cannot be ascertained in this county; but it is a question which many parts of England can prove, where inclosures to a considerable extent have taken place; and we beg leave to quote Worcestershire in support of our opinion, that the less open the country, whether it may have consisted in downs, wastes, or common field land, the less of poverty and idleness is to be seen among the generality of their inhabitants, and therefore it may be inferred, that inclosures tend greatly to population.

WHETHER THERE ARE ANY COMMON FIELDS ?

IN answer to this question it will be necessary to refer the honourable Board to the several quantities of land now in common

common field in the various divisions of this county; and as we proceed to mark the advantages that situation, soil, or any other circumstance may produce, and lastly to draw such conclusions as a review of the whole may suggest.

The quantity of common field land, from Croydon, Beddington, and Wallington, to Carshalton, is estimated at 1500 acres, the major part of which, but especially the lower land, is good, being a kindly loam upon gravel, or upon chalk; and taken in the aggregate, produces very good wheat, oats, barley, rye, clover, and saint foine. Notwithstanding, however, that the greatest part of this land is in the hands of a few proprietors, principally opulent gentlemen, who would most readily join in a fair and equal division, yet from the nature of the tenure of those lands, the intermixture of their property, and some other trifling obstacles, they have hitherto been prevented from effecting so desirable an object. In a field perhaps of 200 acres it is no uncommon thing to find ten proprietors, holding twenty shares or lots; many of which are at a distance from each other, and still farther from the principal part of the farm. The lands above described average about fourteen shillings per acre, although there are some that fetch 1l. 5s. and a few particular situations that realize as high as three pounds per acre; but that is no criterion, being close to some town or village. The whole of these lands in a state of inclosure would, from their proximity to Croydon, Carshalton, &c. let at 1l. 5s. to 1l. 10s. per acre.

From Carshalton, we proceed to Sutton and Cheam, where the soil for the most part is good, although shallow, and the substratum chalk. The quantum of land in this neighbourhood, in a state of common field, is said to amount to 3000 acres. Its immediate contiguity to several lime kilns, enables the proprietors of these lands to dress them at an easy rate, and therefore they are perhaps as productive as lands under such tenures can be. Present rent ten shillings per acre;

acre ; but inclosed land of the same quality, and in the same neighbourhood, brings from 1l. 10s. to 2l. per acre.

In the confines of Ewel, there are between 6 and 700 acres. The high lands near the common are a light shallow loam upon chalk ; the low lands are composed of the same sort of soil, but of a good depth, producing good and fair crops ; which the wisdom and good sense of the proprietors have enabled them to effect by mutual exchanges of lands, laying small or narrow slips together, which before were very much scattered and intermixed. But notwithstanding that by this means one great end is obtained, still the want of inclosures subjects them to all the inconveniences of one system of cropping, does not exempt them from suffering by the bad husbandry of their neighbours, and effectually prevents them from raising such a portion of green meat, as turnips, cabbages, clover, and saint foine, (the latter of which the land in question is well calculated to grow) which the size of their farms would enable them always to grow for the support of sheep stock in the winter. Under these disadvantages, it is not to be expected, that the land should bear a high price, and therefore it only lets from eight to fifteen shillings per acre ; but for which, if inclosed, the present tenants would give from 1l. to 1l. 10s. per acre. Epsom common fields contain about 800 acres. Nearly one half of the low lands are a tolerable deep sandy loam ; the other part, loam upon chalk. Present rent thirteen shillings per acre. The former land, as being so much deeper, is peculiarly adapted to the growth of saint foine, or as it is sometimes spelt, sainfoin, and by Linnæus called *hedysarum onobrychis*. If this land was inclosed, the saint foine might be cultivated to very great profit. The best way is to drill it thin at not less distance than two feet, row from row ; and the seed deposited not deeper than half an inch in strong land, and from that to one inch, according to the strength of the soil, in which the farmer must use his discretion. By being sown in drills, it will enable him

to use Mr. Macdougale's hoe, in order to the due cleansing of the ground by the destruction of the weeds, as well as to the great encouragement of the plants, by stirring, loosening, and pulverizing the ground. It must be understood also, that it is altogether improper to sow any other grain or seed with it. Sheep eat it voraciously; oxen and cows fatten very fast upon it, in a certain state of its growth, just before it comes into blossom; and it makes excellent hay for working horses all the year round. It is affirmed also by those farmers who have cultivated it upon a large scale, that two bushels of the seed of this plant will afford more nourishment to horses, than three bushels of oats; but with what truth, we cannot from our own knowledge speak: it certainly, however, merits the trial, in order that we may know that there is to be found so good a substitute for oats. We have been led into this detail here, by the fitness of the soil under immediate description for the growth of this valuable plant; under a state of inclosure, the whole of this common field land would average twenty shillings per acre. Leatherhead common fields contain 2000 acres of good loamy land; and assimilating so nearly to the preceding, it is unnecessary to add any thing further as an argument to induce the inclosing of them.

Ashted common fields consist of about 700 acres of similar soil: its proximity to the Downs would in a state of inclosure render it highly valuable: its present rental averages about nine shillings per acre.

Fetcham common fields are about 150 acres of good loam; present rent seven shillings and sixpence per acre.

Bookham common fields, similar soil, and about the same rent, and contain 450 acres.

East and West Clandon common fields are nearly 300 acres of similar soil and rent. These three divisions would, if inclosed, let at twelve to fifteen shillings per acre.

Meroe and Horschil common fields are composed of 510 acres of light loamy soil, part gravelly and part stoney: present average rent near seven shillings per acre.

Egham

Egham common fields contain about 300 acres of rich light loam, well adapted to the growth of corn: its ready communication to the Thames, its contiguity to Egham, and as we before observed, the richness of its soil, all conspire to make inclosures here very desirable. The right of commonage is unlimited; and under those restrictions, it nevertheless lets from 1l. to 1l. 5s. per acre, but would let directly, if inclosed, for 1l. 10s. to 2s. 10s. per acre.

Hythefields contain about 250 acres of good loamy land upon gravel: they are in small parcels, the property of about thirteen persons, who have an unlimited right of common: The present rent is sixteen to twenty shillings per acre, but would fetch from thirty to fifty shillings.

Thorp common fields contain about 350 acres of good loamy soil. Present rent is twenty shillings per acre; would let for thirty to forty shillings per acre.

Mortlake, Putney, Wandsworth, and Battersea, are said to contain about 1340 acres of light loamy soil. Present rent 1l. 5s. per acre, which, if inclosed, would find a rental of 1l. 10s. to 2l. 5s. per acre. In examining Battersea fields, perhaps no part of the county (and we may almost include the kingdom too) exhibits in stronger colours the absolute necessity of inclosures. The lands for the most part lay in narrow slips, which is the general custom, are ploughed in one uniform way, and are nearly sown with one uniform round of grain, without intermission, and consequently without fallowing. This its proximity to the metropolis enables the tenants to do, by the great ease with which they get dung and manure; but notwithstanding the facility with which they can always work this soil, yet it is so invariably foul, that in this respect Battersea fields are become almost proverbial. It is in vain that one man is at great pains and expence to cleanse and purify his lands, if his next neighbour will not do so too. The lightness of the soil, and the quantity of dung which is continually bestowed upon these fields, at the same

time that it makes them productive in grain, tends also to encourage the growth of couch, and other noxious weeds. Were they inclosed, they would, in all probability, be appropriated to horticultural purposes, for which the land and situation are so peculiarly adapted : in that case it would fetch from three to four pounds per acre, notwithstanding the tythe has in this parish been a continued source of vexatious disputes between the clergyman, or tythe holder, and the parishioners.

Runnymead contains one hundred and sixty acres of good soil, and at present lets for twenty shillings per acre, tythe free. It is the property of ten persons, and in small parcels. After the 12th of August it is common to all the parish, who turn on an indefinite number of cattle, until March, when it is shut up again ; but being subject to be flooded in the winter, it becomes poached by the number of cattle that are on at that time, to the destruction of the herbage, and consequent loss to the proprietors. This would be remedied by an inclosure, and would be worth from forty to sixty shillings per acre.

Yard Mead, and Long Mead, contain about one hundred acres of similar soil, and under similar regulations, and of nearly the same value.

Weybridge and Walton meadows lie together, and contain about three hundred and fifty acres of loam on gravel ; they are subject to be overflowed by the Thames, which bounds them on the north. Present value about 1l. 5s. per acre.

Send Common Broad Meadow contains three hundred and sixty-five acres of a deep rich soil, the property of about fifty people. The present rental is about 1l. 10s. per acre. As soon as the hay is carried, the meadow is shut up until the 18th of September, on which day the gates are opened, not only for cattle belonging to the proprietors of the meadow, and the parishioners at large, but they are brought

from distant places, as well as from the neighbouring parishes. It is not known how this shameful custom was first introduced, but the fact is so; neither is it unfrequent to see diseased cattle mingling with the sound. All are however suffered to remain on until the March following. The ground by this weight of cattle becomes much poached, and consequently the herbage rendered of less value to the proprietors. It is bounded on one side by the old River Wey, and by the navigation River Wey on the other; and if inclosed would let from 2l. to 3l. and upwards. It is sometimes called Woking Broad Mead, being within the manor of Woking.

Scotches Common Meadow lies in Send parish, and contains fifty acres of similar soil and tenure as the preceding. There are only three proprietors.

Send Little Mead contains seventy acres of deep rich soil. This is a stinted mead. There are eleven proprietors, who alone have a right to turn their cattle on after the hay is off, and in the proportion of two horses or four cows per acre.

In bringing into one view the result of our inquiries into the quantum of acres now in common fields, the quality of soil in each district, and the question, Whether any division of them is proposed in this county? we beg leave to say, that the number of acres exceeds twelve thousand; but deducting what may be supposed to be lost by inclosing to the arable by hedges and ditches, which the surplus number of acres will amply make up for, we set the remainder down at twelve thousand acres, exclusive of about one thousand and ninety-five acres of meadow. These, however, may not appear so very considerable to those who are in the habit of seeing counties, where, perhaps, twice or thrice that number may be found; yet it will be quite sufficient for our purpose, if, by the statement in the preceding part of our

report, under the review of the commons and wastes, we have shewn, that the inclosing of the common fields will yield a return in the produce, over and above their present produce, equal to eleven thousand six hundred and twenty-five quarters of grain, and of the value of 15,693l. 15s. per annum. If our statement is correct, (and it certainly is not our intention either to deceive or mislead the honourable Board) and we have every reason to think that it is not far from being so, it makes no trifling argument in support of the propriety and good policy of inclosing; and if it is of so much value upon so small a scale as the county of Surry appears to be, of how much more consideration must it be, by inclosing those lands in such counties where there are so many more acres? It must not, however, be understood by inclosures in general, that the intention is the dividing a large tract of land into a great many divisions, of a few acres each—it is nothing more or less than observing the following plan: Where a man's entire farm, or the principal part of it, is in common field, which is not unfrequently the fact, in that case it will be proper that those lands which lie near his house should be divided into small fields, for the convenience of removing his cattle from the one into the other, as the seasons and occasions may require. These inclosures may contain six, eight, or ten acres in extent; but the more distant ones for corn, should not be less than sixteen to twenty acres each, according to the size of the farm. The smaller home inclosures will have a two-fold good effect; they will enable the tenant, as before observed, to remove his cattle as he finds it most convenient or prudent, either for pasture or for shelter; and they will in a very material degree act as a screen against the violence of the winds to his barns, sheds, and other buildings. In the first case, although by the smallness of the inclosures it may be said, that the grass produced near the hedges, and probably too under the drip of trees, may not be so sweet and

good as that which is produced in the more interior part of the field; yet, unquestionably, as the whole will grow so much earlier by reason of the warmth which shelter naturally produces, the farmer is considerably overpaid by being able to bring his stock so much earlier to depasture into particular fields, to, perhaps, the consequent less consumption of more valuable provender; and at all events it must enable him to bring them in a better state of forwardness to market. This is the grand art of agriculture, to be able by a uniform good system, to bring every commodity to the earliest market, at the least possible expence. In planting forest trees in hedge-rows, great care must be taken to apportion the number to the size of the inclosure; for it would be the height of absurdity to plant so many trees round them as to preclude both sun and air: a few trees would do that good which a greater number would render very injurious.

The quality of the soil comes next under consideration; and here it will be found, that the soil of the common fields is not only very congenial to the growth of white thorn, of which hedges principally consist, as well as every species of grain, but is likewise, in many places, adapted to the growth of timber, and in all cases capable of producing wood for fuel, for stakes, and for a great variety of agricultural purposes. The more, therefore, these fields are cultivated in a state of arable, by means of inclosures, the greater must be the strength to do it; and consequently, as more hands must be employed to afford that strength, it must tend to the increase of population.

Respecting the latter part of the query, Whether any division of the common fields is proposed? we have before noticed, in the several districts that we have gone through, the attempts that have been made to effect so desirable a plan, and have assigned the reasons that have been given to us, why those plans have not been put into execution; and we can with great truth assure the honourable Board, that

the opinion prevails among farmers and proprietors, that give them but the authority to inclose their fields, as well as to make the proper exchanges, they will give an increase of rent equal to what we have. It will not, we are persuaded, be imagined, that this description, who are said to be for the most part liberal in their dispositions, nor reckoned to be actively inclined, will offer to give an increase of rent one-third, unless positive conviction was prebrought home to their minds, by a comparative difference between the value and produce of their inclosed and open fields.

For more general and particular satisfaction, we beg leave to calculate the several divisions of common fields under review, to bring forward the present rental, which we average, and likewise the proffered increase of rent on closing, which we shall average also. The result will remain for the consideration of the honourable House of Agriculture.

Common fields.	No. of acres.	Present rental.	Proffered rental.
Hydon, -	1500	at £0 14 0	at £1 5 0
Ham, -	3000	at 0 10 0	at 1 15 0
Hill, -	650	at 0 11 0	at 1 5 0
Ham, -	800	at 0 13 0	at 1 0 0
Overhead, -	2000	at 0 13 0	at 1 0 0
Stated, -	700	at 0 9 0	at 1 0 0
Cham, -	150	at 0 7 6	at 0 16 0
Kham, -	450	at 0 7 6	at 0 16 0
Hydon, East and West,	300	at 0 7 6	at 0 13 6
Heve, -	510	at 0 7 0	at 0 12 0
Ham, -	300	at 1 2 0	at 2 0 0
Heffield, -	250	at 0 18 0	at 1 12 0
Heve, -	350	at 1 0 0	at 1 15 0
Heve, -	1340	at 1 5 0	at 1 17 0
Heve, -			
Heve, -			
Heve, -	135	at 0 9 0	at 0 16 0
Heve, -			
Heve, -	div. by		
Heve, -	12435	15=9 13 6	15=18 2 6
Heve, -	Average	£0 12 10½	£1 4 1½
Heve, -	From		

From the foregoing statement it appears, that the average of the present rental is twelve shillings and ten pence three farthings; and the proffered average rental is one pound four shillings and one penny half-penny and a fraction, to each.

WHAT IS THE PRICE OF LABOUR ?

THE price of labour may be said to be nearly stationary for the last three or four years past, unless in the neighbourhood of the metropolis, the large market towns, or near the manufactories; and the average may be fairly estimated at eighteen-pence per day. It appears, however, now to be making rapid strides at advance, and if so, it may one day or other become of serious consequence. The idea uniformly held out as a reason for this advance, is the great increase in the price of provisions, as well as every other necessary of life, and that they are less able to bring up a family, even with this advance than formerly.* How far this may be true is for others to decide. The gardeners, whose profession so nearly assimilates to the husbandmen, and who certainly make some figure among the labouring class of this county, have raised their wages from 9s. to 10s. 6d. and from 10s. 6d. to 12s. per week. Such an increase, with the great advance upon the rental, the public must eventually pay. It is daily becoming the practice to do as much by the piece as possible, and where that can be done, it is the better plan, as being more satisfactory to each party; and therefore grass is mowed by the acre, according to the weight and goodness of

* Besides the too visible disparity there is in the price of labour which is paid to the bricklayer, his labourer, and mechanics in general, the labourers in agriculture are out in all seasons, and in all weathers; and although they are not worse of now in that respect than formerly, yet they have not the means of enforcing an increase of their wages which the mechanic has, although they are equally deserving encouragement.

top, from four shillings to six shillings per acre, and without beer, as circumstances may occur: the wot-making the hay are paid at the rate of one shilling and beer; thatching, at one shilling to one shilling-pence per square of sixteen feet. In like manner, barley, and oats, are reaped and mowed: the former at about six shillings per acre, and the two latter at two shillings and six-pence to four shillings per acre. The reaping is generally performed by the itinerant who at this season are found traversing the country in large bodies; and the carrying and stacking by the same people; ditching and banking, according to the nature of the bank, at six-pence to one shilling and six-pence per rod of sixteen feet and a half; trenching, or turning up fresh ground, where the soil is not over unusually stiff, is performed at ten-pence to one shilling per rod, of the depth of two spades, or twenty inches. The seasons at which labour commences, are from day-light in the winter season, and ceases at dark; and from six to eight in the summer, taking half an hour at breakfast, and one hour at dinner: but the better practice would be, both for the horse, to begin at five, and work to seven in the morning, and to pay by the two hours in the heat of the day. The labourers usually go out at seven in the summer, and at three; and in the winter, from eight to four. In giving a due attention to the draining of land, it appears that much of this is done in any part of the country. But from the accounts we have given of the different soils, many of which require draining, there will be room for ingenuity to work upon. The art of burning is but little known, and still less practised in this district. The use of the woods and wood lands are spoken of in the report of this survey.

THE IMPORTANCE OF LEASES DULY CONSIDERED.

THE leading principles, in the management of property in the county under consideration, are nearly similar to those of other counties. Leases for a term of years are the most prevalent; and the old custom of granting them for three lives, seems to verge fast upon extinction.

Tenancy at will has also prevailed of late years, and particularly in the south-east district; a tenure than which nothing can be more absurd, nor can it be too speedily abrogated: and surely those who are advocates for this mode of letting farms, must be blind to the interest of both landlord and tenant, as well as the community. It is well known to managers of landed property, that few tenants are to be found who are willing to engage in a farm where he must continually be at the mercy of the landlord, or his agent, compared to what there would be if a lease for years was granted; neither can it be supposed, if such men were found, that they would be characters either so opulent or so respectable; for, "What man will risque a sum of money in attempting any improvements, without a fair prospect of reaping a competent advantage?" Hence, therefore, it frequently occurs, that farms get into the hands of desperate men, whose only aim is to get money at all events, and consequently to remain on the farm but a few years, when it reverts to the landlord one-third reduced in value, the land being out of heart, as it is called, and the buildings and fences tumbling down. The farmer, by a tenure so insecure, cannot lay his land down to grass, however desirable it may be to him, or however well adapted the soil may be; because, no sooner does he begin to reap the fruits of his labour, by having brought the herbage to a good sward, than the landlord thinks he may raise his rent. But how different is the case where leases are granted for a certain

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al period? The farmer will give a larger rent, because he is satisfied that whatever improvements he introduces, whether it be in grasses, grain, or different qualities of soil, he has the prospect of being rewarded. That is absolutely necessary as a compact between man and land, we believe that no one who thinks seriously on the subject will be hardy enough to deny: they give, by their lease, to the landlord a security, that such a system of improvement as may be best calculated for all the purposes of an ordered farm shall be pursued; and they satisfy themselves that, at least for the term of that lease, he is labouring under a fair prospect of reimbursing himself those expences he may have incurred, and the hope of a fair surplus for his ingenuity, his integrity, and his industry. At the same time it is to be presumed, that no landlord who has any regard for his fellow creatures at all in view, will, out of reason, exact such a rent, as to give the unhappy tenant only the option of consenting to it or quitting the land which, rather than do, from having, perhaps, been upon it, and attached to it by particular partialities, he will strain every nerve, and by almost starving himself and his family, to save a sufficiency to pay his rent when it becomes due. And yet that this is no uncommon picture of imagination, every manager of estates, and those who, from situation, are led to be much conversant with this most useful and neglected class of men, have abundantly but too convincing proofs of. Formerly it was the custom, that, when a tenant had conducted himself with industry and assiduity on his farm, he was considered by the landlord as a person that deserved some notice; and at the expiration of his lease, a preference was given to him to continue on the farm upon such terms as evinced at once the ability and good sense of the landlord, and the respect and regard for the tenant. But now the case seems altered, and every improvement that is made on the farm is con-

sidered as an argument, that the tenant is getting money too fast, and consequently, that the farm must be greatly underlet; and all this for no other reason, than, because the tenant, quitting the common tract, has had spirit enough to improve the farm. That this is the practice in some of the divisions of this county, we are sorry to say, is but too true; but to particularize the several spots where this survey has in a very particular manner pointed it out to us, might be deemed invidious, and might not answer the end: it is sufficient that it is stated, and which we hope, will be the means of preventing it in future. How contrary to this is the system that other gentlemen adopt, of great respectability and property in this county, and particularly his Grace of Bedford, whose treatment of his tenants we have had frequent occasions to witness, and the eagerness with which farmers are desirous of holding farms under him, is a strong corroborating proof.

To ascertain the fair proportion of rent between landlord and tenant is no very easy task; it requires a person possessed with a thorough knowledge of soils, a perfect acquaintance with the qualities of stock, and with the best systems of agriculture in use, and a character that will not be warped from his duty either by the opinion of the landlord, or by the artful insinuations of the tenant. Such a man is best qualified to do justice to both; and well would it be indeed, if gentlemen setting aside their prejudices and conceits, would make that the rule of their conduct. There is a practice which we are glad to find gaining ground in this district, which is, that two years before the term expires, the landlord gives notice in writing, that at the conclusion of the lease he will expect a certain advance in the rent, according as the farm may bear it. There is something in this plan, so open and gentlemanly, and so contrary to that narrow policy which has too much prevailed, that it may be worth the attention of every landlord, as it is giving the tenant full and

ample time to weigh the subject well, and to look about him ; while he, on the other hand, will not be behind in generosity and gratitude to give his landlord such an answer as best suits his situation and circumstances. On the best regulated farms in the south and south-west part of the county, no leases are under fourteen years, nor above twenty-one ; except where it happens to be with an idea of taking the same into the proprietor's hands, or in case of the minority of the owner.

Having said so much about leases, we next come to the covenants. The tenant agrees to keep up and maintain a certain specified dwelling in all manner of useful and necessary reparations, together with all barns, stables, cow-houses, and buildings of every description, that are or may hereafter be erected on the premises during the said lease ; to keep in repair all gates and fences, landlord finding or allowing rough timber, but the better way would be for the landlord either to give so many new gates every year as he may think right, the tenant keeping them in repair, or else to make such an abatement in the rent as may be equal to the tenant's finding all manner of materials, without having the liberty of topping, lopping, grubbing up, or cutting down any timber, or timber-like trees on the farm, without the express consent of the landlord or his agent in writing, first had and obtained for that purpose. This will effectually secure his timber. The tenant is bound to cultivate his land according to good husbandry, and to consume all hay and straw upon the premises. Within the distance of ten miles from London, this covenant seems generally omitted, or else the markets would feel a considerable loss in the supply. But the tenant is obliged to bring a load of dung or manure back, to be spent on the farm, for every load of hay or straw which may be carried off the premises ; and that all the dung and manure, of whatever nature soever, shall be disposed of upon the said farm only. All taxes and rates to be paid by the tenant, and lately, the land tax also : by which means, little or no trou-

ble attends the settling accounts, and the less of difficulty at this time is certainly the best: the one knows what he has to receive, and the other what he has to pay. Tenant agrees not to sow more than one fourth part of the arable land with wheat in the last year, and that such part of the straw of the offgoing crop, as the landlord shall direct, shall be at his disposal on the said farm. Tenant agrees not to let or suffer any person or persons whomsoever to occupy the whole, or any part of the said demised premises; other than him the said tenant, his executors or administrators, his or their wives, or children, without the special consent of the landlord, or his agent in writing. They severally agree, that every unprovided for dispute shall be settled by arbitration. We have only further to add, that as no good tenant will object to every proper restriction and security which a bad tenant makes indispensably necessary, so every prudent landlord should wisely discriminate between the two, as an incitement to others to follow good examples, to the certain and never-failing advancement of agricultural pursuits.

WHAT IS THE STATE OF FARM HOUSES AND OFFICES?

PERHAPS in no part of the kingdom is the construction and situation of farm houses, and their respective buildings, less variable than in those of the county under consideration. They are for the most part very ancient, and therefore little in point of superior construction can be expected from them. If they still answer the purposes for which they were intended, it is all that can be required of them. It is not likely, however, if they do not answer all those purposes, that a tenant under a lease of twenty-one years, (which is giving it the longest latitude) would pull them down, and not one landlord in five, perhaps ever, sees half the farm houses and buildings upon his estates; so that if they do
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but hold together no matter how, the landlord is satisfied, and therefore nothing but accident or chance is likely to give the tenant a more comfortable dwelling. The formation of the yards is for the most part an oblong square, and depending upon situation as to the points. Supposing the house to be placed in the center; on the one side is a large barn, in some places with one floor, at others with two, for wheat, oats, or barley, with pig sties at one end; on the opposite side are stabling for as many horses as the farm may require, and cow houses and sheds for those cattle that are wintered in the yard with straw. A granary is placed in the yard, sometimes central. To some farm houses are attached wood houses, cart and waggon lodges, poultry houses, &c. At the back of the barn, or the stables, as is most convenient, is the rick yard, the major part of which are placed upon stone pillars, and which consist of wheat, barley, oats, or pease. It seems to be the general opinion, that all sorts of grain are better placed in ricks than put into the barn, for this reason, that the grain never comes out so oleaginous to the feel, as when exposed to the weather in ricks; and besides, it is more subject to get mouldy and musty in the barn, especially if it is placed in a low and damp situation. The barns and other buildings are generally covered with thatch, and the floors are of oak, but we have seen two lately made of elm, that have lain many years: they are in a high situation, and consequently dry, and have lasted much better than two of oak of the same dimensions, in similar situations. Some barns are built with brick and tiled, but are found not to be so good for the grain, which it keeps in a state of dampness. All barns that are made of wood, should have a brick foundation, which may be carried up three to four feet high all round, for the preservation of the wood-work. If ponds of water can be procured in the yard it is a great convenience, as furnishing the cattle with drink, and the means of cleaning the horses from that dirt which a day's work imparts to their

their heels, and which, if not removed, is the cause of grease and other impurities.

THE STATE OF THE ROADS CONSIDERED.

THE roads of this county as well public, or more generally speaking, turnpike as parochial, form no inconsiderable part in the economy of Surry. In the former, the immense sums of money that are annually raised and expended, are beyond what the most sanguine imagination can suppose. But whether the money so raised is properly applied, considering all the advantages that are attached to the situation, is not for us to determine: we shall speak only to facts, and the application must rest, where it should with great propriety, with the Board of Agriculture. In order to be sufficiently acquainted with a knowledge of the subject, a detail at some length becomes unavoidable.

For several years past, the turnpike roads of this county have been under the direction of treasurers, who are trustees of the roads, and are appointed by the trust at large, at a meeting held for that purpose. A knowledge of the fundamental principles of making roads is not deemed at all necessary to the election of such treasurers, but they are generally some respectable gentlemen in business, (if near town) and whither perhaps they go every day. Each appoints some inferior tradesman of the district in which he lives to be the surveyor, and who may be a carpenter, a bricklayer, or any other profession as it may happen; so that without a particle of knowledge in the maintenance and principles of roads on either side, is the expenditure of hundreds of pounds committed to the day labourers, who are for the most part old and decrepid, and who being generally left to themselves, take every advantage: and as the surveyor does not know how much should be done, he is easily imposed upon by the men; and as the money does not come out of his pocket, it is not

rial for him to give himself much trouble about it.
 in the want of experience in the surveyor, and the
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 length of time, for the honour of being placed in a
 from which he can derive no personal benefit, but
 himself to all the calumny and reproach in suffering
 to be in a worse state than he has the abilities either
 edge or money to prevent. From all which it will
 appear, that the present plan of conducting the turn-
 is in this county is fundamentally wrong in theory
 ice, and that nothing short of pursuing measures the
 osite of what has hitherto been adopted, will answer
 And first, we beg to lay it down as a position, that
 be but one solid plan upon which all roads should

be made ; and secondly, to observe that there can be but one system for keeping the road, when so made, in substantial repair.

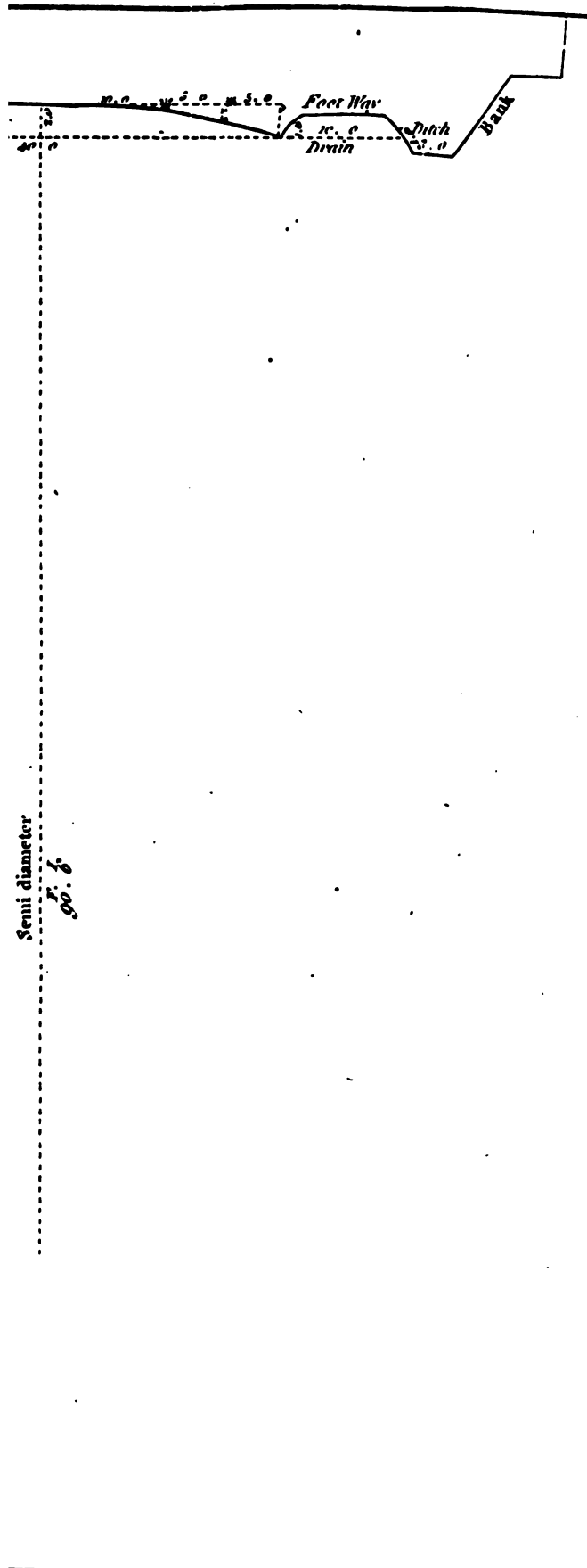
Before we lay down the plan, it will be necessary to take notice of the qualifications and duties of the surveyor, for without that, the best plan may be rendered ineffectual. He should possess long and tried abilities and experience as a surveyor of lands and roads, and a man of fair character and property. By possessing the first, he would be enabled to give such directions and instructions as would be absolutely necessary for the good conduct of the road ; and by the latter, he would be less likely to be drawn from doing his duty fairly and impartially. The cash of the trust, either in receiving or paying bills, to remain in the hands of the treasurers as heretofore, nor on any account be permitted to receive any gratuity or perquisite other than an annual salary. It is submitted also, that being in possession of the requisites to fill such a station, and appointed to it by the trustees at large, he should be under no controul by any individual treasurer or trustee, but subject only for his conduct and actions to that power which delegated the trust to him. It is submitted, that this surveyor should have power over all the district surveyors, so much as to give such directions as he thinks right ; and in case of their neglect or refusal, to be laid before the trustees at their quarterly meetings : to have power to examine the sorts and quantities of gravel, and when and where to be laid on the roads ; of using what quantity of road sand he may think necessary, and power to prevent any being carried away until the roads are supplied : to have command over the labourers : that all bills for gravel, carriage, labour, and all and every account which may relate to the turnpike roads, to prevent imposition upon the respective treasurers, be first examined by him, and signed by him. Under some such like regulations, the roads might be made and preserved at a much less expence than they are at pre-



1

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*of a Turnpike Road
to the feet*



ould be an ornament to the county, a pleasure to the
r, a considerable saving to the land-owner, and a
to the kingdom.

ing pointed out the qualifications and the nature of
ce indispensably necessary to the surveyor, we pro-
lay down the plan for the due formation of the
and for more general satisfaction, we have added a
also. In the first place, the width of a road should
as much as the extensiveness of the thoroughfare
; that is to say, every approach to the metropolis,
a distance not exceeding six miles, should have a
forty feet wide, with a foot-way on each side of ten
eyond that distance the road may with great propriety
ed to thirty-four feet wide, which is sufficient for
riages to pass abreast, and which is more than per-
ay ever meet at one time in one spot. Exceeding this
all is useless, and adds greatly to the expence of
in repair. The foot-way here should be eight feet
eyond the distance of twelve miles, and to the land's
e road should be thirty feet, and the foot-way six
The convexity of every road should be just so much
ording to its width, no water shall lodge on the
or on its sides, but pass quickly to the edge, which
be higher than the ditch on the other side of the foot-
eighteen inches at least. Drains are to be placed at
distances under the foot-way, to take off all the
water, and which should always be kept clear of
and foulness. However far it may be impracticable,
e places, to keep up the edge of the road so much
than the ditch, in order the better to convey off
ste water, still it may be carried along a narrow
l by the side of the foot-way, until it arrives at some
at may be made to receive it, and which must be
where no ditches are to be found. The road being
nned out and made, the next consideration is the

materials and the time most proper for laying those materials, on the road. The gravel that is to be found in the vicinity of London, is not of the most durable nature, and therefore: it becomes necessary that all possible care and attention should be paid both to the time and manner of laying it on: it would be the height of impolicy to lay it on in the winter, because it would lose its effect, would be soon reduced to mud, to the destruction of the horses, and the consequent retardation of that business which good roads would tend to expedite. Hence it will follow, that the only season to make good sound roads, is in the summer: the days are then of a sufficient length to do every necessary day's operation; the weather is for the most part dry and fine; and what can be more desirable than to complete such work in such weather? In March the surveyor begins to shape the road from one end to the other of his division, by removing the inequalities, paring down the sides, and making up the road. When this work is finished, which to do well, will take up some time, he will begin to gravel in such quantities as he may think necessary; and in such places where the road is most worn, additional portions must be laid; so that the whole road may appear uniform and regular, without hill or hole. This must be attended to through the course of the summer; and the winter's coating must be laid on in the months of August and September; but not later. By this means the road will become compressed, and the surface rendered hard and firm. Nothing more will be required all the winter, than to prevent the water from lodging on any part of the road, to keep the channels constantly open, and to keep it regularly scraped as soon as it becomes muddy, which the longer it is suffered to be so, the softer the road gets; because every shower, instead of passing quickly away, is retained by the mud, and from which it receives more injury than people are aware of. Every rut that appears should either be pecked in, or filled up, with the

ndest gravel, and the same by the holes. With
to material: where, there is no choice, the best must
ted of such as there are ; and the deficiency must be
p by the time as well as manner of using them.

cannot close this account without noticing the impo-
watering the roads in the summer ; for however
t and convenient it may be to be free from dust, yet
ering of such roads proves by their uniform badness,
ost all seasons, how much it wears them ; and the
le bad effect it has upon them ; and therefore where-
at is practised, and pipes for the conveyance of river
re laid, it is in vain for the public to expect or to
r good roads there.

in regard to the parish roads, a mixture of good and
is generally the case, is every where found ; as the
elective, and passes from the one to the other every
nd among a certain class of the inhabitants, it too
tly happens, that as the ideas of the successor do not
ond with those of his predecessor, so, instead of fol-
up what he had judiciously begun, a fresh system is
; and thus is the money squandered away in idle and
rsuits, instead of lowering the rates, by following wise
es. The money that is thus sunk, would generally
an pay an able surveyor, and one surveyor might
end several parishes.

WOODS AND WOOD LANDS,

SOME THOUGHTS ON THE PROBABLE SCARCITY OF TIM-
IN THIS COUNTY ; THE MEANS OF REMEDYING IT, AND
IMPROVING THE PRESENT MODE OF RAISING TIMBER,
ELL AS FOR SECURING IT WHEN RAISED.

he first part of the survey of this county, a full and
ar account was given of every common, and piece of
and, or barren heatn, that is to be found in the whole
marking distinctly, as we proceeded, the quality of

be done by inclosures ; and if it were wanted to
 further proof of this necessity, we need only refer the
 to that well digested production, the eleventh Report
 Commissioners of the Land Revenues of the Crown,
 we expressed, in direct terms, their strongest appre-
 s, " That the time is not very distant when we shall
 od cause to repent our want of attention to so ne-
 an article of our defence ;" and they further press it
 et of indispensable public duty, " that every possible
 should be adopted, without loss of time, for raising a
 equal to our future wants." If any thing could
 the lethargic spirit of our countrymen to a due sense
 at they or their posterity have to expect, by conti-
 to cut down without mercy that which should form
 work of this nation, it would be, that they were
 thoroughly acquainted with this Report, and which
 undertaken by gentlemen capable of being furnished,
 with the strongest desire to be furnished, with the most
 ic information that could be procured. Taking it
 nted, then, that inclosures one day or other will
 ace, and must take place, we shall set out by sub-
 a mode, the most eligible, in our opinion, that can
 ted, for inclosing those wastes we have been speaking
 paratory to their being planted. As a preliminary
 owever, it will be necessary that a regular and proper
 be made of the whole of the waste in each district,
 s large a scale as may be thought advisable, ascer-
 and marking, with as much precision as possible, the
 y of land belonging to each manor, to each pro-
 and to each parish ; delineating the hills, the plains,
 e valleys ; and where any variation of soil takes
 o describe it. From this plan, subdividing ones may
 e, allotting the hilly parts of certain dimensions for
 ions ; the flat and low parts, of certain dimensions also,
 le and pasture, as the soil may be suitable ; the whole
 of .

of which to be inclosed, as will be hereafter described. In making these subdivisions, much judgment will be required to apportion to each its due proportion of hill and dale; and there are thousands of acres of flat and low land, from Hirtwood to Haslemere, where springs are to be found, and which, being collected together, might make a small rivulet. A part of such land, where it can be had, should be incorporated into the hill and dale, so as to make proper sized farms. On some desirable spot, the house, barns, and other offices, may be erected, and which should, as near as possible, command the farms. The inclosures of arable and pasture, being made agreeable to the plan as laid down, under the consideration of "the review of the common fields," should have a ditch round each, the better to keep the whole dry, as well as to convey the water from different parts, into certain reservoirs or ponds that may be made in particular parts of the farm, for the convenience of the cattle. It would not be amiss also, that particular spots were set apart, having an acre or two of ground to each, adjoining to each farm, for the purpose of erecting one or more cottages, and the ground would enable them to raise a few potatoes and other vegetables.

Having thus made provision for the agricultural part, proceed we next to the hilly part for the plantations. In order to surround which, it will be proper to throw up a strong double bank of earth, eight feet at the base, and five feet high; both sides to be paved with what turf may be found on the spot, and on each side good wide ditches. Handy men will do this for two shillings and sixpence, or two and ninepence per rod of sixteen feet and a half. On the top of this bank let two rows of furze be sown and two of quick, or more provincially white thorn; the latter to be planted in two rows, nine inches apart, between the two rows of furze, and as near to the outer edge as may be; a rough post and rail may be desirably placed on the top for a few years,

to

out the cattle. Every three or four years this furze
 is cut down, cutting the rows close to the ground alter-
 nately, and repairing the quick annually, where it may have
 any fence composed of furze is only to be recommended.
 plantations, and quick for the arable and pasture.
 Thus bounded your intended inclosure for planta-
 tions, such part as you can conveniently plant each year,
 your consideration is the nature and quality of the soil;
 it requires that attention which, we are sorry to say, is
 neglected, and which is the occasion of so much money
 being lost unnecessarily, so many years being lost, and with-
 out success, and arises from no other cause than the
 ignorance of the planter, not knowing, or what is worse,
 the selection of such plants as are suitable to the
 soil. It is vain would a man plant oaks on the sandy moory
 downs of the Northamptonshire Hills, the species of pines and firs on the
 chalky downs of Sussex, the beech on the wet and boggy parts
 of the Hampshire, or the poplar on the chalk of Dorsetshire;
 strange as it would seem, and as it really is, such is
 the error of the day, notwithstanding it is clear to a demonstration,
 that every soil is properly disposed, no soil in this country but what is pe-
 culiarly disposed, to one or other of these species of tree, and in which
 they succeed to answer every purpose that is required of it.
 If that what we have advanced relative to the soil
 is true, not being barren, is not fallacious, we beg leave
 to say, that that very soil, which is by so many said not to
 be fit for cultivation, is so very desirable and so very much in-
 valuable to every nurseryman, that he can scarce grow a plant
 native of America with any tolerable success, without
 the principal part of his composition, equal to
 the soil of this species of soil. It may be said, that these
 are now flowering shrubs. But if he knows any thing
 of the plants that are brought from America, he will be con-
 vinced that there are a greater variety of fine oaks, than are
 to be found with in any part of Europe, together with ash,
 birch,

birch, maple, lime, platanus, cedar, and hickory, all which grow to an amazing height and size, besides an innumerable variety of pines, firs, and larch. So much then for the soil of Bagshot. There are other soils equally light and sandy, but of a yellow cast, and equally deserving the appellation of barren; and yet what would become of the plants from the Cape of Good Hope, the East and West Indies, but for this species of soil? Of the former we have for a great many years had numbers of loads annually, and would have it in greater quantities if the distance did not prevent us: of the latter, we annually draw numbers of loads from the sand pits at Blackheath. And wherever any of these soils make a part of the natural composition, the greatest part of our forest trees will thrive well. But we will go nearer home for proof. There is at this time growing upon this said barren Bagshot Heath, numbers of young birch and Scotch fir, to all appearance in a state of nature. Whether they may have been sown by any particular person, we could not learn: they, however, only want now to be protected from cattle, &c. and they will soon cut a very conspicuous figure, and that too without the assistance of manure or cultivation. Having made this digression, to do away the idea of land being barren, we revert to making the plantations. That soil which lies to the south and north, and north-east of Farnham, being on the hills composed of a deep black sand, should be planted with Scotch spruce and larch, with a few silver and balm of Gilead firs, skirted by six or eight rows of beech. For this plantation no preparation of soil is necessary, but the holes only dug for the plants, and that they are planted as soon in the autumn as possible, that the whole may be completed before Christmas. In the lower and more sheltered parts, a mixed plantation may be made, composed of birch, firs as before, sweet chesnuts, horn-beams, hollies, and skirted by beech. In every plantation it would not be amiss to sow a few pounds of laburnum seed, which, as the hares (those great

destroyers

destroyers of all young plantations) are very fond of the young shoots, they might be drawn from the firs, &c. until they are got out of their reach. It is observable, and not less remarkable, that where there are any plantations of firs, on the north and east side of hills in similar soils, that they grow faster and taller, the grain of the wood is more compact, and the tree more full of turpentine, (and to make them more free of knots, it only requires that the trees should stand so much the thicker and closer, which will be the means of killing the under branches before they get to any size to cause large knots) than those which are produced from a full exposure to the south and west, and upon which the sun has always so much power. All trees produce the best timber, that have the least sun. Some gentlemen with whom we have lately had conversation upon the value of firs, have gravely assured us, that they are of no manner of use, and not worth the expence of cultivation; but these gentlemen, we are well assured, have not inquired into the value of those at Moore Park, and Waverley Abbey near Farnham, as more particularly described in the former part of this Report; nor of those at the Duke of Bedford's late purchase in the parish of Warrendon in Bucks; as well as those in Bedfordshire, or at Long Leat, the seat of the Marquis of Bath in Wiltshire, where they would find a complete refutation of what they have advanced. As a strong inducement to set about the planting the hills, and inclosing the whole, it is to be understood, that the Basingstoke canal takes a course at least fifteen miles through the heath, and this being now effected, we have no hesitation in saying, that in a few years the timber which may be supposed to be growing on these hills, would make that part now waste, of as much value as any of the inclosed land in the circumadjacent districts. Thus much of the hills. The lower lands are of a more loamy nature, and although not directly the soil for oak, and consequently it cannot be quite so good, yet will grow well, and perhaps

may hereafter save that, which may be produced from more congenial soils, for the more common purposes to which the best oak is too often applied. Let no one then say, that while we have the means of providing trees that are congenial to those soils before mentioned, and of covering these heaths profitably, that we have one acre of barren waste in this kingdom.

In making these divisions and sub-divisions, it is to be presumed, that due care will be had to the planning out the roads from town to town, and from town to village, and with as many communications to the canal as may be thought advisable, always making choice of the shortest and safest ways to each. The plan of the roads being thus settled and staked out, let them be ploughed up in the first instance into as high a ridge as may be thought safe, and after they have lain some time to settle, the surveyor must come, and with his men, to fill up all the great and unsafe hollows, and shape the whole into its proper form, and which should not be done too sparingly at first, being careful that all ascents and descents are regular and easy, which will give a lasting form to the road, as well for the safety as for the pleasure of the traveller.

The outline of a plan for the inclosing those heaths which comprize that range of country from Aldershot in Hampshire, to Weybridge in this county, being thus given, and which will equally apply to those places whose soils are similar, we proceed to those innumerable lesser wastes that are every where scattered over the eastern and southern part of it. We have, in describing them, given the quality of soil, and therefore all that need be advanced here is, that whenever they are inclosed, it may make a part of the contract with the proprietors, that at least a certain portion of each, as commissioners under the inclosure should think right, should be appropriated to the growth of such timber as appears most congenial to the soil, and which will in general be found to be oak.

The

the thing that presents itself to notice is the planting, of several years experience in the art of cultivating species of forest trees, together with a very exact practice in planting them in all kinds of soils and situations well for use as ornament, can enable a man to knowledge, it may be presumed, without the of vanity, that we are intitled to lay some claim consideration of the Board of Agriculture. In this in practice, we certainly shall differ from the everyday. With men of experience, we feel easy in shall advance, and with those who judge from r, it will not be worth our while to contend.

for us to determine upon the number of acres shall be taken in from each, or any of the wastes, or shall be inclosed; we take it for granted they will ; and in that situation we shall consider them. If wet, deep circumferential ditches will very much it must be effectually done before we begin to the ground is ready early in the autumn, it must oughed, and then trench ploughed. In this state it n until spring, when the frosts, &c. will have pulverized the ground and made it in a fit state for planting. cannot be got ready for this autumnal operation, it oughed as before, and well harrowed in the spring, of potatoes may be planted thereon, the repeated of which (by a plough for that purpose) will orate, and pulverize the ground in the finest way , and will besides, if the season is at all favourable, y all the labour. But if the crop should turn out d, still the land will not be the less prepared, and y will answer the end.

as the autumnal rains come on, and the potatoes p, nothing more is required than to horse-hoe the or in case of not having that instrument, let it be wed) which will level all those inequalities which

the taking up the potatoes will have occasioned. Having in the spring of that year sowed (in some soil made proper for the purpose, in drills a foot wide) such a quantity of firs, oaks, chesnut, beech, birch, sycamore, maple, hornbeam, platanus, and holly, with a few wild black cherry, as may be more than sufficient for your intended plantations, the ground being every way prepared and made ready, (as much at least as you can plant in one season, which, as those that were raised from the spring sowing will not have attained sufficient age and strength the first year, the plants may be got at any of the neighbouring nurseries, at a very easy rate : this is only meant that another season may not be lost) begin by setting out the plantation, the oaks not to be more than twelve feet apart, and the other sorts, which are to compose the mixture, not more than four feet. Let the holes then be set out and properly made ; a proper person must superintend the taking up the trees in such proportions as may make a regular mixture, and that as little damage as possible is done to the roots. These are to be carefully pruned, and the tap root a little matter shortened (but the better way is, that as the seedlings will not be removed until the second year, and being sown in drills, a skilful person, with a very sharp spade may, in the month of November or February, undermine and cut the roots, from four to five inches under ground ; they will in the succeeding summer furnish themselves with lateral fibres, which will be of very material benefit to the plant, and when taken up will require nothing more than with a sharp knife to cut off any bruised or damaged root, and to trim the points of the fibres which would otherwise perish) as much expedition as can be used in this sort of work is necessary, in order that the roots may not be too much dried. A careful active man will then follow with the plants, which he is to distribute according to the proposed distances; one man will hold the plant in the hole, while two will fill up the ground, the finest of the mould being put
about

fibres and the roots, gently trodden with the foot, filled up with the remainder of the soil, always to close up the surface about the plant with the hands that are handy and accustomed to this work, a great number in each day ; the holes to be made small, but the trees to be planted by the day ; two feet square, two feet deep, is a good size. Avoid planting deep, as far as possible. All the trees may be planted at two feet apart.

Let at least one third of the plantation be quick growing trees, and whatever of them fail must from time to time be replaced. All which having done their duty, by affording protection to the oak, may with great propriety, when necessary, receive a judicious thinning, until at last it is left but oak, and here and there a chesnut and a beech. We do not speak problematically, when we assert, that independent of the shelter, these thinnings will in a few years phase the fee simple of the ground. Having given our opinion, that plants of two years old were best calculated for such a plantation, we do not mean thereby to exclude planting trees of a larger size, because we are sensible that it may be done with great safety and with as good success in making or becoming good timber. Oaks and firs, are better not to exceed four years old, each having been before transplanted; but all the other forest trees may be raised from five to six feet high, but not exceeding six feet in diameter. Much with regard to planting. We shall now conclude this Section with a few observations on the mode of raising them when raised ; and that leads us to suppose the trees made, in full vigour, and arrived at that period when it is necessary that it should be thinned. We shall now bring to view the present mode of cutting down trees, in which there are generally large quantities of wood, and then submit the plan we strongly recommend in lieu thereof.

For

For a moment let us take a view of a coppice or plantation, consisting of any number of acres, this week in full crop, so thick, perhaps, that a bird can with difficulty penetrate, the succeeding one, the whole of it cut down, saving the young saplings, whose cause we are now pleading. "Is it not lamentable to see these very trees, which are one day to form the ornament, perhaps the bulwark of this great and happy isle, nursed, as it were, in a hot-bed during their infancy, suddenly bereft of every protection, and exposed to all the severities of winter's chilling blasts, and tempest's cruel scourge? Figure to yourself these trees, twelve to sixteen feet in height, without a single branch but two or three near its top, standing like so many May-poles on the remains of the coppice, at a distance of forty feet and upwards apart, and ask yourself if reason, if common sense, can justify such a procedure? Say rather, "Is it not obvious to every unprejudiced mind, that the sudden exposure of trees, from a warm and sheltered situation, to extreme cold and frost, must give such a shock, and consequently check to vegetation, as must materially injure them? And hence it is that they rarely, if ever, produce a stem higher than twelve or sixteen feet, (which might have been the height of the underwood before felling) but branch out into a number of small ramifications, which carry the appearance of a pollard, rather than that of a tree; added to which is the danger they run of having their branches torn off, and not unfrequently the whole top carried away by the violence of the wind. In opposition to a custom so injudicious, we beg to submit the following as the better plan: When the plantation is arrived at such an age and height as to require thinning, begin by lopping off the branches of such trees as were originally intended to be taken away. This will give air, strength, and light to those which are to remain, for several years, and will continue to be that sort of nurse as before. At whatever period it is found necessary to thin the wood

ond time, (for different soils and situations will be
 r less productive in growth) suppose it should happen
 or six years, cut down and transplant every other
 ut saving all the oaks. This will give them another
 ace, and will protect them to the last thinning; and if
 nce any of the lateral branches of the oak should
 n need of being shortened, in order the better to assist
 der, and to prevent as much as possible the tree from
 ng a pollard, let a skilful pruner be employed, and
 ed not be afraid of the knife nor of the saw where it
 ssary; and if done judiciously, no danger need at all
 rehended. As there will be now four times the
 of oaks on the ground than are intended to be left
 ber, at a seasonable time, which may be known by
 e of the trees, let every other oak be taken away, and
 eed from time to time, until every oak tree is at the
 e at which it is to stand for timber. The plan thus
 ed is attended with no additional expence whatever,
 e the extra trees being suffered to stand for such a
 of time, the oaks become larger and finer in a much
 period, and consequently will amply repay every
 ce occasioned by delay or any other circumstance.
 ve noticed the necessity of skirting plantations of firs
 ch, with beech of a considerable thickness, so it is ne-
 in an equal degree, that the external parts of these
 ions should be both thicker and more irregularly
 , and when thinned out, should be left thicker than
 her part of the plantations, in order to break the
 current of wind which is oftentimes very destructive
 ods, and ought to be guarded against with all imagi-
 are.

MANUFACTURES

*MANUFACTURES, AND THEIR EFFECTS ON AGRICULTURE,
CONSIDERED.*

THE manufactures of this county greatly exceed those of any of the counties contiguous to the metropolis ; and which consist of distilleries, vinegar makers, potteries, hatters, wax-bleachers, snuff-makers, gunpowder-makers, starch-makers, paper-makers, leather-dressers, and the whole branch of callico printers : but notwithstanding there may be a few instances where, from the particular nature of some of the manufactories, numbers of poor may be brought on the parish, to the great increase of the poor's rate, of which the land must bear its due proportion, as well as increase of rent, labour, and provisions, in the immediate proximity to all those places, yet, as the consumption of every produce of the farm, whether it be in butter, eggs, poultry, hay, straw, or corn, must necessarily be increased in a certain proportionate ratio, a ready sale is always found, and consequently much of the expence that would be incurred by sending every thing to a distant market, is saved to the farmer. It is also generally observed, that the crops in those neighbourhoods are better got in, by reason of the indulgence usually given by most of the manufacturers, to many of their people at that season of the year, to go out as harvesters ; which, besides changing the species of labour, is a kind of festival, and gives them health and spirits to recommence their former and proper occupations. From thence we conclude, that manufactures have no ill effect upon the agriculture of this county.

DISTRICT

DISTRICT PRACTICES.

practices of this district are in no way noticeable ; only reason that can be assigned for it is, that among opulent gentlemen of the county, by whom every effort should be encouraged by example, it has not until now been taken up with spirit. It is to be hoped it will be taken up with energy, and that the encouragement held out by the Board of Agriculture, (after the wastes and common lands have been inclosed) will infuse a desire for improvement into the ranks of agriculturalists. We must except out of our remark, however, the very great exertions that have been made by Mr. Duckett, near Esher, whose farmery and improvements, mostly improved by himself, deserve every commendation. Nor can we pass in silent approbation, on the extraordinary pains that are now taking on the Royal Farm at Richmond. Every thing that so conspicuously marks the great traits of the august Personage for whose recreation and amusement this concern is undertaken, are here to be displayed ; the most scientific and practical agricultural arts are employed ; the most improved implements are used ; and every thing, both as to stock and instruments, which the ingenuity of man can suggest, will here find a fair and impartial trial.

Such an undertaking, so patriotically begun, and so assiduously laboured, much good to the country must necessarily flow. And it will be well indeed for this kingdom, when men and gentlemen of large landed property would, with laudable ambition, emulate so noble an example : they should derive more solid recreation than is to be found in the dissipated pleasures of the court, or in the pursuit of politics.

IMPROVEMENTS PROPOSED.

THE improvements that have occurred to us, and which this county appears to stand most in need of, consist in a better rotation of crops; by the more frequent introduction of artificial grasses, green crops, and farinaceous roots.

The strong and wet lands would, perhaps, be better changed from their present arable state to pasture, as by that means they might with greater ease be effectually drained; and consequently that manure which is now spent on them, would be reserved for the more elevated situations, and would thereby turn out to more important and beneficial purposes. Wherever there is not a due proportion of pasture land, and until green crops are more generally introduced, it is impossible that the farmer can properly manure all his arable; and therefore that may account for the poverty of the crops to be met with in some parts of the county.

Much has been said, and a great deal has been written from time to time, about the impolicy of large farms; but wherever these are to be met with, the greatest improvements, and the greatest regularity and good management are to be found, and, generally speaking, there only. But were a man to take the unpopular side of the question, and argue upon the great loss which the public sustain by every small farm, his humanity and want of feeling would be immediately brought forward, and he would be stigmatised as the greatest enemy to the poor farmer. But without filling pages with arguments to prove our position, which at last will perhaps not convince, let any man compare the produce of a certain number of acres from the farm of fifty and sixty pounds a year, with an equal number from that of five or six hundred a year, and of equal quality of soil, and it will be found that in quantity and sample the latter exceeds the former very greatly; and from what can that proceed but from the

cultivation which his capital enables him to give? By a proportion of stock which the larger farm can afford, and with a less proportion of expence in horses and

On the other hand it may be said, that these men with so large a capital can keep back the produce, and thereby keep up the price of grain, which, if that were really the bounty, or which is nearly tantamount, the bounty payable on importation, will always correct; but if farms be never so large, the great increase in consequence of the additional quantity of arable land that will be brought into tillage, and the superior cultivation of the corn, by inclosures, will produce abundance of men, and various motives will be induced to bring their produce to market. After all, perhaps, it would be politic that the bounty should be under one hundred pounds a year, and but not exceeding five hundred pounds.

OBSTACLES TO IMPROVEMENTS.

IN considering the various impediments to improvements in agricultural pursuits, we shall beg leave to state two that very much operate to the disadvantage of this county. The first we shall take the liberty of stating at some length.

In the previous part of this Report, we have remarked upon the defects of common field land, commonable land, and waste or waste, which are to be met with in every part of this county. With respect to the common field land we have before endeavoured to shew the impolicy of allowing it to longer remain in its present state. It is very immaterial whether the land is occupied by landlord or tenant; it is a major part, and we believe we are enabled to speak with certainty, is not more than two-thirds productive;

and how can it be otherwise, if, for a moment we consider the nature of such possessions? The farmer or occupier, whose property or lands too frequently lie intersected by others of his neighbours, and that sometimes at no inconsiderable distance apart, to the very great inconvenience and loss of time to the parties, to say nothing of the disputes and animosities that are continually produced by encroachments and trespasses—the farmer, we say, ploughs his land, and prepares it for the summer crop; but as soon as that crop is off, instead of its being sowed for turnips, or clover, or rape, or planted with vegetables, as cabbages, or borecole, is suffered to remain uncultivated, trampled on indiscriminately; and if the land is stiff, becomes condensed into an almost solid mass, until the season of the year comes round, that he may sow for his summer crop again. By such a practice, and such a custom, the poor are confessedly deprived of a certain portion of very useful labour. But that is not the only evil arising from this very unproductive state. The land thus untilld, cannot remain in a torpid state, Nature will exert herself, and instead of producing an abundance of turnips, or other valuable crops, a mixture of weeds, and every thing that is noxious and prejudicial to good husbandry, is the consequence. The land being thus rendered of less value, as well by its exposure as by its tenure, receives a still less proportion of encouragement by manure. Can it then be at all matter of surprise, that so large a portion of indiscriminate soil, of good and bad, should be so much less productive than the same soils in the same situations in an inclosed state? Do not inclosures afford shelter and warmth to cattle, in the winter? Do they not afford their occasional supply of fuel, as well as useful materials to the neighbourhood? But, above all, do they not give to the farmer the opportunity as well as liberty of introducing a regular course of husbandry, such as is consistent with good management; and does it not from hence follow, that a

1

greater

er proportion of sheep and cattle can be maintained on the same quantum of land, and by consequence more substantial improvements effected, greater crops of every kind produced ; and with the additional satisfaction, that while it yields pleasure and profit to the farmer, the community at large are also benefited to a very great degree ? If these are facts, and which the present appearance of all common field land confirms, of how much importance must not the preserving of this species of property appear to every unprejudiced mind ? And that brings us to consider the impediments which are thrown in the way of inclosures of common field land ; and, indeed, it may apply to inclosures in general. It is a well known fact, that no common field land, or commonable land, can be inclosed without an express act of parliament, and even then, if not assented to by the consent of all the parties interested ; but from the nature and disposition of mankind, such a consent is difficult to be obtained, and particularly where some of the parties are minors, abroad, or labour under any legal disqualification. It is indeed almost impossible to procure such consent.

With interests so clashing, and difficulties so various, a bill becomes the only resource ; but what with the expence in carrying the bill through both houses of parliament, and the delay (which for, aught we know, may be extremely proper) in coming to London, there to wait the unavoidable delays occasioned by other more important concerns of parliament, undecision shall take place upon the subject, operate in many cases as a powerful discouragement to undertakings of this nature, and not unfrequently to an entire exclusion from attempting.

With all due submission, therefore, something like the following plan might be adopted—To pass a general act of parliament for inclosures of every description, empowering the justices at their quarter sessions to receive proposals from the parties interested in any inclosure ; to have power to appoint two or more commissioners, and two able and respectable

able land surveyors, who should, on oath, make a plan of the intended inclosure, and take a view of the soil and situation thereof; to have full authority to make all exchanges of land, and to settle every difference that may arise from the present admixture of property. These commissioners having local knowledge of the premises, and acting under the eye of the magistrates, would proceed with that caution and circumspection so essential to the due administration of justice, and their decision or award might be legalized either by the Board of Agriculture, or by the magistrates at a subsequent sessions, as to the wisdom of parliament shall seem meet. It is presumed, that from some such plan very important benefits to the country would arise; it would awaken a laudable emulation among the gentlemen and farmers, by rendering that secure which in its present state is exposed and insecure; and that emulation once set afloat, who can calculate the advantages? A cold, bleak, and, we may say, lifeless country would be rendered proportionally warmer, as the fences became more and more advanced in years; vegetation would soon feel the fostering influence of shelter and protection; the cattle of every description become more productive and profitable; and in short, (together with the inclosing the wastes) the whole face of the country would experience a change for the better, undescribable. Such, in our humble opinion, would be the great advantages of inclosing the common field land. Much of the same argument will hold good in respect to the commons and barren wastes, which, wherever not capable of being converted into arable or pasture, might with the strictest propriety be planted; for there is no soil, as elsewhere observed, however barren, nor no situation, however bleak and exposed, but trees of some kind or other will grow, and will always more than pay for the trouble and expence, either as timber, fuel, or shelter.

ard to the second obstacle, the payment of tythes in
e shall take another opportunity of stating our sen-
pon the subject, and of submitting them to the con-
a of the Board.

CONCLUSION.

G thus laboured to render this Report as particular
general as it was possible for us to do, we have
return our very sincere thanks to those noblemen,
n, and farmers, through whose kindness we have
bled to furnish the Board with that information
ey have required. If it shall at all answer their pur-
tend to open the eyes of the public to the importance
ny concerns that are here treated of, it will in some
compensate for the very considerable difficulties and
e have experienced from those quarters where a very
line of conduct might have been expected. We
y well grounded hope, that as the curiosity of the
s now awakened, it will look up with anxious ex-
to the honourable Board of Agriculture for some
sted system, which their wisdom will be able to ma-
those authentic materials which the County Survey
them in possession of.

AD-

ADDENDA.

IMPROVEMENTS.

IN drawing out our Report of Surry, it did not occur to us, under the question of what Improvements could be suggested, that there was one, which would be a valuable acquisition to the internal improvement of this county in its agriculture, be a source of considerable wealth to the kingdom in general, and in a particular degree to that part of the district under consideration, where the callico-printing is carried on to so great an extent. It has been hinted to us, therefore, that it might with great propriety be recommended to the attention of the public, and under the judicious eye of the Board, such recommendations or suggestions might be offered for the introduction and cultivation of it, as would soon make it a part of the agriculture of this county. In the course of this Survey, and in various parts of the county, the plants were observed to grow in great abundance spontaneously; and as it improves much by cultivation, which at a former period we have attested, no difficulty can be started against its having a fair trial. The plant under consideration was lately discovered by Dr. Cuthbert Gordon to be a most excellent substitute for madder. Some of the plants were in the year 1778 planted in our grounds, and succeeded to admiration. It may be raised in any quantity, at a moderate expence, much more so than madder can, and the tops of the substitute will answer the purposes of weld in dying yellow, whereas those of madder are fit for no purpose at all. Upon the whole, then, as the improvements in agriculture,

whether

er considered in the light of furnishing the means of
for the inhabitants of this island, of which it appears
no one article it is equal to the increased consump-
or whether it be towards extending its manufactures,
consequently commerce, by the introduction and culti-
of those articles which those manufactures stand in
f, make a part of the consideration of the Board of
culture ; so it is not at all doubted, but that under their
ations and guidance, such an alteration will in a few
ake place in the agriculture of this kingdom, as will
the great service which the Board has rendered to the
unity, and be the means of saving immense sums of
, which are annually exported into foreign countries
in time of war, is very hazardous, and greatly en-
(the price) for the payment of those articles which
be cultivated in this country, and to the consequent
e of population. Vide Appendix, No. I. and II.



A P P E N D I X.

No. I.

D I R E C T I O N S

THE SUBSTITUTE FOR MADDER FROM THE SEED,

AND TO

MANUFACTURE IT FOR MARKET.

stitute for Madder is an indigenous plant, or native, of Great Britain, and deep, and dry land. The root is the most marketable part of the plant into the ground, sometimes even to six feet, if not prevented by want of or some other very material cause: so circumstanced, the tap or main root divides into a great number of smaller ones, many of which being lost in making the article for market, causes a short crop: in general, however, one acre of ordinary good land, being deep and well-ploughed, may produce from three and one ounce of the seed sown on beds, to be covered with glass-frames it will produce plants sufficient to plant out that acre.

may be sown in April, and will come up in ten days, or a fortnight's time. Months after, is fit to be planted out: which, for the convenience of hoeing must be duly attended to for the first and second year, and to prevent the land interfering one with another, should be done at the distance of eighteen or twenty square.

For years from the above period, the roots will, without any further trouble, by hoeing, be arrived at their proper point of maturity, at least to that degree that the suitability of the land to the plant can admit of. and therefore may be taken up; but in no greater quantity, at any one time, than may be with ease raised, and, in particular, of a dirty black skin, or bark, which hangs loosely being highly pernicious to the beauty and elegance of their colouring part it may be effectually done by softly rinsing them in pure, and, should convey running water. This being effected, and wiped thoroughly dry, they are immediately put into a stove, previously brought to that degree of heat which stops fermentation, and thus preventing any way scorching the remaining fine bark. When thus prepared they are, without loss of time, brought to the mill, in order to prevent their imbibing



No. II.

select Committee of the House of Commons, consisting of the following
 ed and well informed Members, Mr. Wilberforce in the Chair, Sir John
 ackburne, Mr. Elliot, Mr. T. Sanley, Mr. J. Ferguson, Mr. Hawkins
 Duncombe, &c. held repeated meetings upon Dr. Gordon's discoveries
 dying fixed and permanent colours from the indigenous plants of this coun-
 try; a considerable time employed in the investigation of their merit, pro-
 posing Queries to the most distinguished manufacturers and dyers of Yorkshire
 re; and as these queries, together with the answers, relate to a subject of the
 importance to the agriculture and commerce of this country, and have a ten-
 fold a still greater light on what we are farther to expect from our indige-
 conducted under the judicious inspection of the Board of Agriculture, we
 them; and we are the more induced to do so, by the close connection they
 we have already observed on this salutary and interesting topic.

*Answers of the Woollen Manufacturers and Dyers of Rochdale in Lanca-
 shire to the Queries of the Committee on Dr. C. GORDON'S Discoveries in the Art of*

Dr. Cuthbert Gordon, in December 1789, instruct some of your principal
 clothiers, in his secret method of dying *fixed* colours, and upon the great scale

What are the colours in which he so instructed them?

and all the drab and cloth colours depending upon black; yellow, and all

the colours so produced, as permanent as indigo-blue, or madder-red, or any
 well-dyed *fixed* colour?

the principal clothiers, who were instructed in December 1789, continue to
 respective manufactories Dr. Gordon's *fixed* colours?

Dr. Gordon's mode of dying equally simple and facile as that of the present
 is it on the whole more so?

Dr. Gordon's mode of dying is equally simple and facile as that of the present

the such of Dr. Gordon's discoveries in the art of dying, as the delegates from
 the Association have been instructed in, made from the *native* plants of this country?

the plants the Doctor has already discovered to your association, abound
 in Great Britain, or could they easily be cultivated so as to supply at all
 the most demand of trade?

plants the Doctor has already discovered to our association sufficiently
 Great Britain, and without cultivation, so as to supply at all times the ut-
 most of trade.

do you furnish any grounds for estimating the importance of the above dis-
 coveries? Is there now a considerable demand for cloths dyed in the old mode of the
 clothiers? Is this demand increasing, and may it be expected still further to extend?
 the importance of the discovery is such, that no persons will purchase cloths
 in the old mode, were every one able to distinguish or judge betwixt that and
 in Dr. Gordon's mode: the latter is fixed as the cloth, and the former is
 decayed while the cloth is new. In our opinion, when publicly known, it
 will increase the demand, and entirely annul the *old mode* of dying.

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GENERAL VIEW
OF THE
AGRICULTURE
OF THE COUNTY OF
SUSSEX.

5. q. Is Dr. Go
practice, or is it o

A. Dr. Gordon
rience, more so th

6. q. Are such
from your Associ
country?

A. Yes.

7. q. Do the pl
ficiently in Great
the utmost deman

A. The plants t
dying, we appreh
the utmost deman

8. q. Can you
tioned discoveries
mode of the abov
ther to extend?

A. The ground
veries are—the d
considerable, and
inconsiderable, w

9. q. Besides t
other which you
or in your presen
practice, whether
instances also, to
with the modes n

A. There certai
practice.

10. q. Has Dr.
cloths of any oth
above mentioned,
what are these co

A. The Doctor
which will be an
can be produced f

J. Buck

S. Wrig

J. and J

J. and J

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Saddleworth,





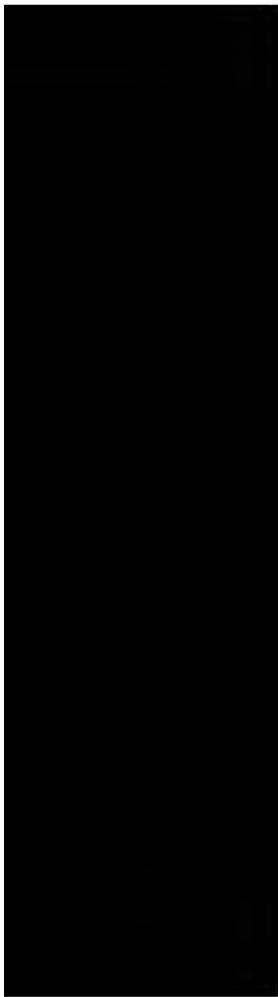
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Rivers. The chief rivers are the Ouse, the Adur, and the Arun; they rise in the Northern parts of the county, and after dividing the chalk-hills into 4 or 5 parts, empty themselves into the Channel; the first at Newhaven, the second near Shoreham, and the third at Littlehampton. Although comparatively small, they render the greatest benefit to the county at large, by furnishing points of connection for the canals already finished, or in agitation. Assisted by the public-spirited and enterprising conduct of a few noblemen and gentlemen, Sussex, on the completion of those canals, will not be inferior to other counties in the improvements of inland navigation.

An extensive tract of waste, with some interfection of cultivation, stretching into Hampshire on the West, and Kent on the East, and calling loudly for improvement, occupies principally the Northern part of the county. It is part of that division denominated by the term *Weald*, comprehending, in its greatest latitude, all the land North of the South Down hills, and the levels or marshes. A person viewing the Weald from these hills, would immediately be struck with some degree of surprise at the prodigious proportion of woodland, as the country under view appears one uniform mass. This arises partly from the woods being so extensive, and in part from a most barbarous inveterate practice, when the country was cleared, of leaving a belt of wood, several yards wide, round every distinct field as a nursery for timber; the very small inclosures also contribute to render the general aspect so woody. Anterior to the conquest, the Weald was one continued forest, extending from the borders of Kent to Chichester across the whole county, and the names of a variety of parishes situated in this line, and evidently derived from Saxon origin attest this truth to the present day: indeed the forests
now

For remarks and additional
observations.

aining take up a very considerable portion of this
The iron works, formerly established in various
this district, supplied a market for its produce;
earnings of fuel, amongst other causes, has been
to have occasioned their removal to cheaper situ-
the island; very few now remaining to testify the
of such establishments.

Next division we come to, is the South Down hills.
an extensive range of chalk hills, rising some
feet above the main level of the adjacent country.
end, in an unbroken chain, from East Bourne
shire, or about 54 miles in this county, and the
breadth certainly does not exceed 4 miles. This
district of chalk, containing 88,000 acres of land, is
ere uneven, not a level acre is to be seen in a

The climate of this county, on the South
ese hills, is very warm, and exceedingly favour-
vegetation. But upon the exposed and bleak situ-
the hills open to the South West, the winds are
so boisterous as to strip off the thatch from corn
d the covering from all thatched buildings; far-
suffered great losses by these winds blowing the
of the ear at harvest, and the wheat especially, to
£.4 per acre. These winds, when they are im-
with saline particles, occasioned by the West
ing the spray against the beach, destroy all
d trees; all the leaves, and in general every thing
ing turned brown. The hedges are cut by the
he side open to the wind in the same manner as
been done artificially. All buildings whatsoever,
istrict of the Downs, are therefore placed in a low
to shelter them from the damage occasioned by

Soil. The investigation of the nature and properties of the variety of soil in this or any other county, so as accurately to chalk out the line where one soil ends, and another sets on, can be thoroughly made only by those who have a most exact and intimate knowledge of the country: in attempting to give the board this information, it appeared, that the variations would be more clearly traced out, and more accurately defined, by a rough sketch of the soil, than by any other mode which could possibly be adopted. I am still aware, however, that it will be but superficial and imperfect at best, and liable to those errors which unavoidably result from such a survey.

Different soils. The different soils of chalk, clay, sand, loam, and gravel, are found in Sussex. The first is the universal soil of the South Down Hills; the second of the Weald; the third of the North part of the county; the fourth is found on the South side of the hills; and the last lies between the rich loam on the coast, and the chalk on the hills.

Of the South Down Hills. The soil of these hills varies according to the situation. On the summit is usually found (more particularly in the Eastern part) a very fleet earth: the substratum is chalk, and over that we find a surface of chalk rubble, covered with a light stratum of vegetable calcareous mould. Sometimes on the summit of the Downs there is only a light covering of flint, upon which the grass grows spontaneously. Advancing down the hills, the soil becomes of a deeper staple, and at the bottom is every where a surface of very good depth for ploughing. West of the river Arun, the soil above the chalk is very gravelly, intermixed with large flints. Between the rivers

For remarks and additional
observations.

use, a substratum of reddish sand is found, a flinty surface. The usual depth of the soil balk varies in almost every acre of land—from inches. The general average between East Bourne does not exceed 5 inches. West of Shoreham deeper; and, between Arundel and Hampshire all more so.

the hills. At the North foot of these, and ending the same length as the Downs, is a slip and stiff arable, but of very inconsiderable runs from 1 to 3 miles into the vale before it day. The soil of this narrow slip is an excessive loam, on a bottom of clay: it adheres so share, and is so very difficult to plough, that usual to find 10, 12, and sometimes even 14 work upon it.

the hills. South of the hills, is an extensive of a singular fertility. This district, extending Chelmsford to Emsworth, 36 miles, is, at first, rising breadth, between Brighthelmston and The nature of this soil, which is unquestionably marked with the finest in the island, is a rich upon a reddish brick earth, or gravel; the of the upper soil varying from 10 to 16 as we proceed to the West, we generally find a beneath this rich earth, at the depth of 2 or 3 the surface. This soil is in some spots stiff, but y light, intermixed with sand, and beneath that rl. Between Brighthelmston and Shoreham, the adth of this uncommonly rich arable vale falls e mile; between the rivers Adur and Arun it is three; and, from the Arun to the borders of Hampshire,

Hampshire, it becomes still wider, from 3 to 7 miles: in the South-West, the quality of this land becomes stiffer: in the peninsula of Selsea the soil is a stiff clay-loam, upon a blue clay bottom; and the farmers here not having the same opportunities of marling, as their brethren on the Eastern side of Pagham Harbour, the soil on the Western side is not equal to the other in fertility.

Between this vale, and the South Downs, runs a vein of land, not equal to the foregoing in point of richness, but admirable land for the turnep husbandry. This land is provincially called *Shravey*, stoney, or gravelly; the flints sometimes lying so thick, as effectually to cover the ground; and it is curious to see how vegetation flourishes through such beds of stones. The general opinion is, that if the farmers were to put themselves to the trouble and expence of picking them off the land, the soil would be very materially injured; some, indeed, who have tried this experiment, are thoroughly convinced of the loss thereby sustained, the land having never since produced the same crops of corn as before; but this remark applies only to some places where the stones are so numerous.

In the line from Chichester to Emsworth, on the North, we meet with the same kind land for turneps and barley. The declivity of Hanbrook Common is wet and springy to the South: The North side is dry and gravelly. The nature of this soil is a light gravelly, or stoney loam, upon a gravel bottom; a brick earth, 18 inches in thickness, frequently intervenes between the upper soil and the gravel.

Of the Weald. The soil of the Weald is generally a very stiff loam, upon a brick-clay bottom; and that again upon sandstone. Upon the range of hills running through the county in a North-West direction, the soil is somewhat different.

For remarks and additic
●bservations.

It is here either sandy loam, upon a sandy grit-
is a poor black vegetable sand, on a soft clay
great proportion of these hills is nothing but
n sand. St. Leonard's Forest contains 10 000
and Ashdown Forest 18,000 more. The
black sand on these rabbit warrens is various
aches in many places: the soft clay, which
ward appearance resembles marl, is much
n the neighbourhood of Handcross, upon
s, this substratum is several feet in depth,
een on the declivity of a new road, lately made
cus Dixon.

g the soil of this district, I shall set down a
t of what I had a more immediate opportunity
y observing the gradation in the surface earth,
beds, for above a hundred feet under ground
am furnace.—The soil of Penhurst is gravelly
minate depth: at the bottom of the Earl of
s park, sand-stone is found, solid enough for
of masonry. Advancing up the hill, the sand
et in thickness, but so friable as easily to be
powder. On this immediately a marl sets on,
ent depths of which the iron-stone comes on
all the various sorts as follows:

balls.	Provincially <i>twelve</i> feet; because
	so many feet distant from the
	first to the last bed.
me-stone.	What is used as a flux.

balls.

C

7. White-

7. Whiteburn. What tripoli, properly calcined:
and treated, is made of.
8. Clouts.
9. Pity.

This is the order in which the different ores are found. Advancing on, I crossed a valley where the mineral bed seems entirely broken, and the sand stone sets on. At the distance of something above a mile, the iron-stone is again seen—another intervention of sand, and then, at low water, when the tide goes out, the beds of iron-stone appear regularly on the shore; an indisputable proof, that however the appearance of the surface may vary, the substrata continue the same.

In taking the range Northwardly from the bottom of Ashburnham Park, for 12 miles at least, the strata are nearly the same, there being no material inequality of surface that does not partake of sand-stone, marl, iron-stone, and sand again at the top. It is unquestionably owing to sand being the general cap to the hills, that the cultivated soil of these districts is made up so largely of it; even the loamy and marly soils, after rain, very evidently discover it in small glittering particles, which, in process of time, have been washed from their native beds.

The received opinion of the range of the lime-stone is, that it runs eight miles from East to West, and one from North to South:—how far this opinion of the limited continuation of lime-stone is well founded, has not been decided upon. The soil tending immediately to sand, is of the hazel kind; that tending to marl, connected either with iron or lime-stone, is formed of a more tenacious and closer texture, and every where the substrata bear a strict analogy to the surface.—The lime-stone and iron-stone generally rise very near the surface; often within 3 feet:

For remarks and additional
observations.

depth to which the lime-stone continues has not
discovered, having never in this country been
er than 120 feet, where it is much firmer, and
rior than at any other depth whatsoever.
earence of the iron-stone above 40 feet under
is different; certainly not so good, being
l seems more dull, and it works heavier in the
the very best of the veins are frequently inter-
stripes, the thickness of a quill, filled with a
matter; and the marl beds, which the iron lime-
luer appearance than where it is good—but the
e-stone have no such resemblance at any depth.
ous fact, and worthy the attention of men con-
matters of this sort, to account for the differ-
h, perhaps, may not be very difficult upon fully
the component parts of each substance.—The
ly is, that iron-stone diminishes in goodness
, and lime-stone does not; neither the grey,
omposed of shells, and the exuviae of marine
or the blue, which is a *perfectly indurated calca-*
—As it is now sufficiently proved that there are
s, that, with cleaning and burning, will make
good lime as the top bed, or *great blue*, (as it is
y called,) from which one of them is at the dif-
1 feet; so that instead of 2, to 2½ feet of blue-
ch was what was generally drawn and used,
w produced without fouling any more surface,
7 feet. This fact fairly considered, must con-
man, that but for the perseverance of the Earl
ham in drawing the deep under-stones at his
d thereby setting an example, which other lime-
ers are now following, that part of Sussex must
to avail itself of that advantage from lime as

a manure which it now does, and which will, from this circumstance alone, be prolonged to future generations.

The alternate order of sand-stone and iron-stone is every where found through the Weald, in all directions.—The sand-stone, marl, and iron-stone, all dip into the hill.

Under this, at a considerable depth, the various sorts of lime-stone are discovered in the order in which they are set down, with the thickness and shale of each different fort.

The First Limestone, 3 feet 3 inches thick ;				8 feet shale		Grey.
Second . . . 0	9	9	Ditto			
Third . . . 4	0	39				
Fourth . . . 1	1	3				
Fifth . . . 0	8	3				
Sixth . . . 0	8	2				
Seventh . . . 8	3	4				
			inch.		The great blue: by far the best.	
Eighth . . . 2	0	1	6			
Ninth . . . 0	6	0	4			
Tenth . . . 0	9	1	3			
Eleventh . . . 1	2	0	4			
Twelfth . . . 0	8	1	1			
Thirteenth . . 1	1	1	6			
Fourteenth . . 0	6	8	0		Blue.	
Fifteenth . . . 2	3	This last stone is fine enough to set a razor.				

This is the succession in which they are found. The Sussex lime-stone, upon trial, has been discovered to be superior both to the Maidstone and Plymouth stone, and it is now confessed, that no cement equal to it in the kingdom has been discovered.

Of the Murshes. Besides the soils already treated of, there is a large tract of marsh land adjacent to the sea coast, between the Eastern extremity of the South Downs, and Kent. The soil is a composition of rotten vegetables, intermixed

For remarks and
observation

with sand and other matter, collected from the
filth which settle on the surface. In Lewes
vegetable mould is 12 inches thick. In Peven-
all eight feet in thickness. Under this is a very
filt, mixed with marine shells. Water logs, or
trees, of very considerable size, have been dug
insey-Level; and trees, each containing a full
ber, have been taken out of Lewes Level, when
a canal was made.

SIZE

RENT AND TAXES, PROPORTION BLE AND PASTURE, PRODUCE.

FARMS in this county as in every other, are constantly found much more extensive, and of far superior arrangement, on dry than on wet soils. This is the case in the district of the Weald; for, although farms are sometimes found exceeding £.300 *per ann.* still a far greater number fall short of this; and the average size of farms on the wet soils is under £.100 *per ann.* I find, from the particulars of several distinct farms, that the rent of arable in this district is 10*s.* *per acre.* The Western part of the Weald, comprehending a considerable portion of poor, and frequently wet, sandy land, is set at 8*s.* *per acre*; and good loamy clay, on the Eastern side, rises as high as 15*s.* At the foot of the Chalk-hills, not included in this district, we find a slip of excellent arable, which, taken by itself, is rented from 20 to 24*s.* *per acre.* But this part is generally included in the Down farms. A very great quantity of waste, not less than 90,000 acres, in this part of Sussex, averages from 1*s.* to 1*s.* 6*d.* *per acre.* Of this St. Leonard's and Ashdown forests comprize nearly 30,000 acres.

Land Tax, and Rates. The land tax in this county is very high at 4*s.* it levies 3*s.* in the pound. The amount both of that, and of the rates in 10 parishes in the Weald, is as follows :

Cowfold,	£.295	Land tax at 3 <i>s.</i>	Rates	324	0	9½
Hitchinfield,	119	—	—	132	10	3½
Horsham,	887	—	—	776	13	1½
Ifield,	312	—	—	404	16	4
Nuthurst,	184	—	—	275	11	3
Rusper,	186	—	—	269	7	9½
Sherrnanbury	153	—	—	227	2	6½
Shipley	497	—	—	711	11	10
Warneliam,	353	—	—	406	15	2
W. Grinstead,	446	—	—	767	9	9
	<u>3432</u>			<u>4295</u>	<u>18</u>	<u>10½</u>

Farms on the South Downs. Farms on the South Down Hills rise much higher, in proportion to those in the Clays. Many farmers occupy the greatest part of their respective parishes ; as in Buttolph, Kingston, Combes, Bramber, North Stoke, Blatchington, Falmer, Piddinghoe, and many others in the neighbourhood of Lewes, East Bourne, and BRIGHTHELMSTONE. All, or the greatest part, of these farmers have large tracts of marsh land annexed to their farms, for the convenience of maintaining and fattening their oxen : the work of every farm depending chiefly on them. A farm of 1200 acres, at East Bourne, has 300 acres of marsh : another farm, of 1260 acres, 400. The average size of farms in this district amount to 350*l.* a year. In the triangle formed by Shoreham, Lewes, and East Bourne, farms rise much higher ; and, on the Western side of the Downs, they fall lower.

In the rich vale. In the rich vale South of Arundel and Chichester, farms vary from £.70 to £.150. Three farms out of five are under £.100 rent. In Selsea peninsula rented at £.1,800, and containing upwards of 2,000 acres; farms vary from £.50 to £.400, and rates are 3s. 3 $\frac{1}{2}$ in the pound. Upon the light gravelly soil, situated between this rich arable land, and the South Down hills, farms are averaged at £.200 yearly rent. In West Bourne hundred, they are sometimes to be found unusually small. Printed hamlet is occupied by nine farmers, each not exceeding £.50 *per annum*. Farms, within a circuit of 5 or 6 miles round West Bourne, fall short of £.100 yearly rent.

Rental. With respect to rental, we find that farms are occupied at a rate in proportion much lower on the chalk-hills than on the cold wet soils in the Weald, when the nature of the soil, situation, &c. are calculated. Some farmers on the Downs rent their farms at a valuation under what the same lands would yield in some other parts of the kingdom: this practice deserves consideration, as low rents do not always generate exertion and activity. The Native Down, or Sheepwalk, is rented at various prices—from 1s. to 8s. 6d. A very large tract of the hills between Newhaven and Shoreham averages at 5s. 9d. and the arable at 11s. very rich 20s. Between Lewes and East Bourne, the Down averages at 2s. 6d. arable, 10s. 6d. Between East Bourne and Shoreham at 4s. 1d.

Of the light gravelly land. On the light gravelly soil, at the South foot of the Downs, the rent is 12s. 6d. Where the soil is much finer it is in

Printed

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observations.

Manor	24	} Average above 18s. per annum.
Ditto	20	
Ditto	20	
ley, Ditto	20	
Ditto	16	
Ditto	12	
Ditto	12	
Ditto	20	
Ditto	20	
Ditto	20	

Wald. In the noble district of arable loam, the rent is from 20s. to 25s. per acre. It is entirely arable, and the soil is very equally divided; almost all the land of which they are proprietors.

Excluding the rents of pasture in the vicinity, with all grass land which enjoys any local advantages over any other in its neighbourhood, the general average of grass land in the Weald is one acre with another, when grass-land is let for pasture, which indeed is seldom the case.

Meadow. On the Western side of the county, the admirable practice of watering is understood, and performed, meadow rents as high as 40s. In the West is rented at 25s.; in West Bourne at 35s.; in the meadow, which before watering rented at 20s. is now let at 40s, and has been valued as high as 50s. The river Lavant, from the Spring-head at East Mead, to the mouth at Havant, waters between 4 and 500 acres.

Marsh-land. A large tract of marsh-land, part of which lies along the sea coast, varies from

from 20s. to 40s. *per* acre. A small portion of very rich fertile land rises as high as 50s. and even 60s. Pevensey Level averages 30s.; Winchelsea, 25s.; Brede, 35s.; Pett 25s.; Lewes and Laughton the same; Breeding, 30s.; Arundel Rape, 25s.; the whole rental of Pevensey and Westham amounts to £.7,510, almost entirely grazing land; Pevensey parish contains only 4 arable acres, and in Westham, by far the major part is of the same description. Two thirds of this parish is occupied by the parishioners, and the remainder by graziers who live at a distance.

Land-tax, Tythes, and Rates. The land-tax in the Level of Westham is 2s. in the pound on the full rents, and the tythe upon grazing land the same; upon arable 1s. 4d. The poor rates are 4s. in the pound on the half rents, the church and highway rates 6d. each. The land-tax and tythes in Pevensey are the same; but the rates are much lower. The poor rates are 1s. 9d. in the pound on the half rents; the church and highways 3d. each.

	A.	R.	P.
In the rapes of Pevensey and Hastings are,	16,462	1	12
Arundel, - - - - -	5,258	0	0
Lewes and Laughton Levels, - - - - -	4,739	0	9
Breeding Level, - - - - -	1,700	0	0
	28,159	1	12

Scot. In Pevensey, and generally in all the levels, is raised a tax by the acre, called *Scot*, both general and particular. The general scot is applied for the purposes of paying water-bailiffs expences; officers wages; erecting buildings; and repairing the hutches, groins, and sluices, at the sea; clearing the havens and channels,—all this is

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observations.

landlord. The particular scot is applied for
of casting, mowing, cleansing, and looking
streams and sewers; likewise for pulling down
and sewers, in the internal part of the level;
all other necessary work. This scot is paid
the landlord and tenant, and the rule of appor-
, that the landlord pays for all new work, and
for mowing and cleansing, which is an annual
There is another tax laid on particular lands,
of repairing the droveways in the levels, and
and keeping in repair bridges over the streams
cross the droveways, which is wholly paid by the
The Levels of Pevensey, together with the
within the rapes of Pevensey and Hastings, are
and the same commission of sewers; the manner
the scots is by the acre. In Arundel Rape
of 6d. an acre in three years; the 15th of
and the 9th of June, 1791, were the two last.
are also rated in addition to the above, for
levels as occasion may require.

of arable and pasture. The proportion be-
e and pasture varies in different parts of the
in the Weald one third is arable, one third pas-
the third wood and waste. On the South side of
the arable exceeds the pasture in the proportion
s to 1. Upon some farms this proportion is
on others much higher; for there are whole
at have hardly an acre of grass, excepting a little

conclude this account with the following estima-
total number of acres, rent, and produce, of
county.

	Acres.	s.	Rent. £.	Produce.
Down Land	68,000 acres	7 <i>per acre</i>	23,800 at 4 rents	95,200
Rich Arable	100,000	25	100,000 at 4 rents	400,000
Morsh . . .	30,000	25	37,500 at 5 rents	187,500
Waste . . .	90,000	1 6 <i>d</i>	6,750 at 1½ rents	70,125
Arable and Pasture in the Weald }	425,000	10	212,500, at 3 rents	637,500
Woods, &c.	190,000	10	95,000 at 3½ rents	332,500
	<u>903,000</u>		<u>475,550</u>	<u>1,722,825</u>

The remainder is rivers, roads, towns, buildings of all sorts, &c. Thus we find that the general rent of the whole county, excluding rivers, roads, &c. is 10 s. *per* acre, the rent 475,550, and the acreable product £.1,722,825 sterling.

COVENANTS, MATERIALS *for* BUILDING, FENCES.

THE covenants between landlord and tenant on the South Down hills are, that the landlord shall find materials for all repairs, and different buildings, as posts, rails, gates, &c. That the tenant, within the distance of 4 or 5 miles, shall be at the expence of conveying these materials to his farm, and shall pay all costs of labour, except occasioned by fire, tempest, or extraordinary high winds. Out-buildings are thatched with straw, and built with flint. The flooring plank is two inches and a half in thickness. Gates and stiles are made of oak timber. The landlord is at the expence of the material in its rough state, and all other charges are defrayed by the tenant.—Where hops

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, the covenants agreed upon are, that the tenant shall sow one crop of corn between the new and old leases when they are grubbed up. That one third shall be in tillage, and two thirds in meadow and hops. That no grass shall be plowed up but left in the old leases, that all manure arising from the hops shall be given to the meadow and hops. The term of leases are the same as in other parts of the county, for 7, 14, or 21 years, with this variation that leases for 11 years are not unusual. Respecting the covenants are much the same as on the hill farms—that the tenant shall be allowed the tenant, the expense of cutting out, &c. All close fences, barns, and out-houses in general, are reserved to the landlord. On the Western side of the county the covenants agreed upon are, that no grass land shall be plowed up for £.10 penalty; that the farm shall be sown with clover, or divisions, to prevent the ground from being too much exhausted; and, at the close of leases, the land shall be left fallow for the succeeding tenant; the hedges shall be cut under twelve years growth; the trees shall be lopped; rough timber on the stem, and the use of brick and mortar are allowed with material, but all workmanship is at the tenants expense.

are usually in the new inclosures, two rows of trees on the bank of the ditch. But care should be taken that the ditch be not too near the quick, for it acts as a drain preventing the quick from receiving that regular supply of water to raise a strong and lasting fence.

COURSE

marks and additional
observations.

COURSE and PRODUCE in the WEALD.

THE rotation, or system adopted by farmers, in arranging the method of cropping their land in this district, is in a great degree fixed by the nature of the soil they cultivate. The most general system pursued on the stiffer or strong loamy soils, is the following :

1. Fallow.
2. Wheat.
3. Oats.
3. Clover.
5. Oats, Peas, or Wheat.

The wheat-sowing season commences the beginning of October, and usually concludes with the month of November. The most beneficial time is allowed to be the middle of October ; early and late sowing depending on the seasons. The method of preparing the land before sowing, is by a clean fallow, giving the land usually from three to five plowings, and then sowing about 3 bushels of wheat. If found necessary, it is weeded in the spring by women and children, who earn at this work 6d. a day : and in the month of August it is harvested. The succeeding crop of oats is sown upon two plowings, the first in winter, from 4 to 5 inches in depth, and with the oats the land is laid down to clover, usually one peck. The clover is mown the first year ; and fed the second, or ploughed in July as soon as mown, after having turned into it a few sheep, and then they plow it 3 or 4 times for wheat, peas, or oats ; or the lay is broken up in May, after Spring seed time is finished, when the land is hard and dry.

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observations.

fallow is given to prepare it for the ensuing
is barbarous management.—To recommend
than is practised, is highly desirable upon
more especially upon those soils which nine-
kingdom are absolutely ignorant how to
as the cold and wet clay soils of the Weald
hint is sufficient.—The first operation is
g, without which, these soils can never be
ny advantage : this well executed, will last
30 years. Cabbages, upon such land, for
will answer well : after this come oats, laid
ver, or any other plant adapted to the soil—
of chicory would turn out to great advan-
great and leading object to aim at, is to culti-
rn is sure to follow, if found necessary : but
corn should be no object, as the nature of
better adapted to permanent pasture than it
e in a state of tillage.

of the cold clays, under the northern parts of
the western side of the county, the clover
ing laid 8 or 10 years, are broken up, and
ats, upon one ploughing, at the rate of 4
e acre : after this comes a summer fallow for
4 earths, sown with 2 bushels to 3 rood : a
oats succeeds the wheat ; the land is then
n clover and trefoil. The nature of this soil
ly wet, that it is impossible to keep it from
afs, and without the least preparative it would
e in 18 months. At Ashburham, a most
fe is adopted upon the lighter soils of, 1st. tur-
ey, 3d. clover, and 4th. wheat ; the Norfolk
at, two bushels are sown, and the land pro-
to 8 sacks per acre ; of oats the produce
6 quarters.

Another

Another method upon light land is to sow

Rye,
Turneps,
Barley,
Clover,
Wheat.

The rye is sown the latter end of August, or beginning of September, the earlier the better: in the Spring it is sheep-fed, after which the land is ploughed 3 or 4 times, and a pound of turnep seed sown about Midsummer: these are once hoed, and in October or November the turneps are fed on the land with sheep, and the following April 5 bushels of barley are sown upon 3 cross ploughings: this is succeeded by clover, trefoil, or rae grass, laid down for two years; the land is fed with sheep for the first year, and the second year's crop mown, which produces from one lad and a half to two loads *per* acre. This arrangement is admirable, and only practised by intelligent farmers.

Besides these systems every where overspreading the Weald, other practices are adopted by skilful farmers, which are of the highest utility to the general husbandry of this district.

Farmers, in the neighbourhood of Battel, cultivate potatoes with great success, for fattening bullocks; and they are experimentally convinced, that wheat after potatoes, is equal to wheat sown either upon a clover lay, or a clean fallow. It is now about seventeen years since the cultivation of this root was first introduced as an improvement in Sussex husbandry: and the farmer, to whom the county is so highly indebted for the introduction of it, has had the most productive crops of wheat sown upon potatoe land; and the largest quantity of wheat *per* acre which he ever raised, was after potatoes, and sown on the 14th of December. This spirited improver introduces potatoes in the course of 1 wheat, 2 potatoes, alternately; always ta-

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observations.

manure well for the wheat. His average crop varies from 350 to 400 bushels, and his wheat quarter *per* acre. This course he has practised since he first introduced the cultivation of potatoes, and he never failed of an abundant produce. The crop varies from 16 to 20 bushels of the clustered or round variety from the latter end of March to the beginning of May. They plough the wheat stubble about three times, to 7 inches in depth. In Spring they handhoe, and harrow the ground, as occasion requires; and a month or two before the potatoes are taken up, they take up the crop by spade or prong. The mode of preserving the potatoes against the severities of winter's frost is to dig a hole, proportioned to the quantity of potatoes, and put in, usually about 4 or 5 feet deep; and over the hole they build up a house 10 or 12 feet in height, with walls of mud or clay, and knefs, of clay and chopped straw plastered; the interior is filled with haulm or straw. Sometimes, in very severe winters, a little charcoal fire is burnt in an iron kettle over the potatoes. Rae-grass and trefoil is cultivated round Battel. For trefoil, they sow 2 gallons; of rae-grass a bushel. Where the soil will take it, the farmers find clover and artificial grass; but the same land has so often been sown with it, that it turns very often to little advantage. In some cases rae-grass is an excellent substitute. A heavy roller is very general in this county on light land inclined to wash, to roll their wheat crop, when first sown, or as it comes out of the ground. Others feed it off with sheep or hogs. They drive all their cattle, of every kind, repeatedly over the ground, breaking the soil together, thereby preventing the frost from destroying it. When the nature of the soil and the season will permit, a very heavy roller, weighing 12 or 14 oxen, to be rolled over the wheat, is sometimes done. On the thorough sands, on the northern side of the county, their common course

E

is

Arable Produce of the Weald. Respecting the produce per acre of this district, the following account of several parishes, scattered over the Weald, in a circle of 50 mile circumference, will enable us to form an accurate idea of the corn produced in this part of the county.

	Bushels.	Oats.	Bushels.	Pears.	Bushels.	Barley.	Bushels.
	12	Slaughtam	16	West Grinstead	10	Slaughtam	16
		Rusper		Slaughtam		Worth	
	14	Worth	20	Worth	12	Cuckfield	24
		Horsham		Rusper		Horsham	
		Rudgwick		Balcomb	14	Shipley	16
		Kirdford		Horsham		West Grinstead	
		Wisperer		Ifield		Athhurst	
		Green		Cuckfield		Average	22
	16	Billinghurst	24	Rudgwick	16		
		Hitchinfield		Kirdford			
		Crawley		Wisperer Green			
		Ifield		Billinghurst			
		Palcomb		Hitchinfield			
	20	Shipley	28	Warneham	20		
		West Grinstead		Horsham			
		Athhurst		Slinfold			
		Warneham		Pulborough			
	22	Cuckfield	30	Chilington	24		
		Horsham		Shipley			
		Slinfold		Horsperpoint			
		Pulborough		Albourne			
		Chilington		Bolney			
		Shipley		Haytham	32		
		Salhurst	32	Ditchling	36		
	24	Bolney	36	Average	20		
		Haytham					
		Horsperpoint					
		Albourne	40				
	26	Ditchling	44				
		Ashburnham	48				
		Winchelsea					
	28	Average	31				
	32						

For remarks and additional
observations:

res—none of any consequence planted in this
ay and clover the average weight is 20 lb *.

ure. This is an article of great consequence
is to be had in great abundance, as all the
very plentifully to manure their crop, chiefly
But the present use renders the expence so
the repetition so rapid, as to put the effect of
very questionable point of view : the farmers
it on their fallows from 80 to 120 bushels,
5th year, and some use it every third year.
lime is unquestionably great, more especially
ately broken up, and by a prudent and judici-
in the management, it will turn out an ex-
re; but, repeated so often, it answers no lon-
sensible farmers have discovered this to be the
experience, and they mix it with other ma-
ld, or no longer use it.

alk hills extend no farther Eastward than East
order therefore, to supply the rest of the county,
hipped in floops from the Holywell pits at
from whence it is carried to the Bexhill, Haft-
re kilns: here it is burnt into lime, where the
e with their teams and take it away at 6d. per
this trade 16 floops are constantly employed,
all the month of November; nine of these be-
ngs, and seven to the port of Rye. The total
fumed at these kilns, for one year, amounts
33 sloop loads of chalk, each containing 550
bout 350,000 bushels.

n, eminent for his exertions in improving the waste land of
liberally assisted me in drawing up this account of the corn
uld.

That the Board may have all requisite information respecting the method of burning, &c. I have inserted the account of a kiln, and process of burning, &c. which I had from a lime-burner at Hastings, who has been employed in the trade for many years.—The kiln is seventeen feet in the clear, at the bottom; nineteen in depth; and fourteen over: 70,000 bricks were used in the construction, which, at the time of building, 23 years since, were 25s. *per* 1,000. It has four eyes at bottom, each 21 inches wide in the run of the shovel, and the same in length: these are situated at the opposite sides of the kiln, and are used for drawing out the lime. The arched way, round the kiln, is eight feet wide in the ring, clear of the buttresses, which are 3 feet in thickness. The whole circumference of the inside circle is 90 feet. The conveniences are all excellent, as a waggon with one horse can stand in the porch, clear of the doorway. The kiln contains about 1,200 bushels of chalk, proper coal measure; and the draught, in full work, is 300 bushels of lime every day. To burn one kiln requires six chaldron of coals, either from Hartley in Northumberland, or from Wales; but the best coal for this purpose are from Sunderland. The process in the burning, is to lay, at the bottom of the kilns, a little faggot-wood, and on that, a small quantity of cordwood, covered with some straw, upon this is laid coal, and on the coal chalk; this is continued until the kiln is three quarters full, when the faggots are lighted. After this the kiln is in constant burning the whole season, whatever quantity of lime is drawn from the bottom, the same quantity of chalk and coal is thrown in, the kiln always being full.

They think that the lime is much stronger when burnt with coal, as the chalk is always cut into small pieces before it is put into the kiln; whereas, in *flame* kilns, so called because the heat is forced upwards, the chalk is put

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in large pieces, without any breaking; and, in
of burning, it must happen, that a large por-
too much or too little burnt; for, in these flame
it being forced upwards through the chalk, the
the kiln will be thoroughly done, but the up-
little. Last year the price of the lime was
red bushels, and a drawback allowed of 5s.
ofse who bought 500 bushels,—this year the
to £2 14s. 2d. The demand for lime from
ther decreases, as we may perceive from the
of these last two years.

What I had from a lime-	Bushels burnt-
tings in . . .	1788 . . 70,000
	1789 . . 80,000
	1790 . . 98,000
	1791 . . 103,000
	1792 . . 80,000
	1793 . . 60,000

afe is caused by the erection of two new kilns
to those from the proprietor of which this ac-
cted.

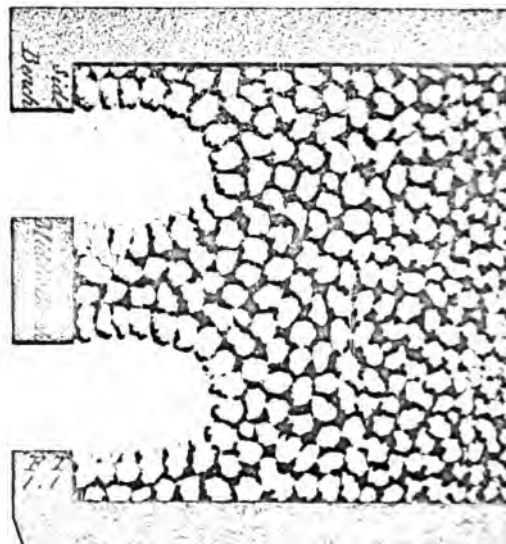
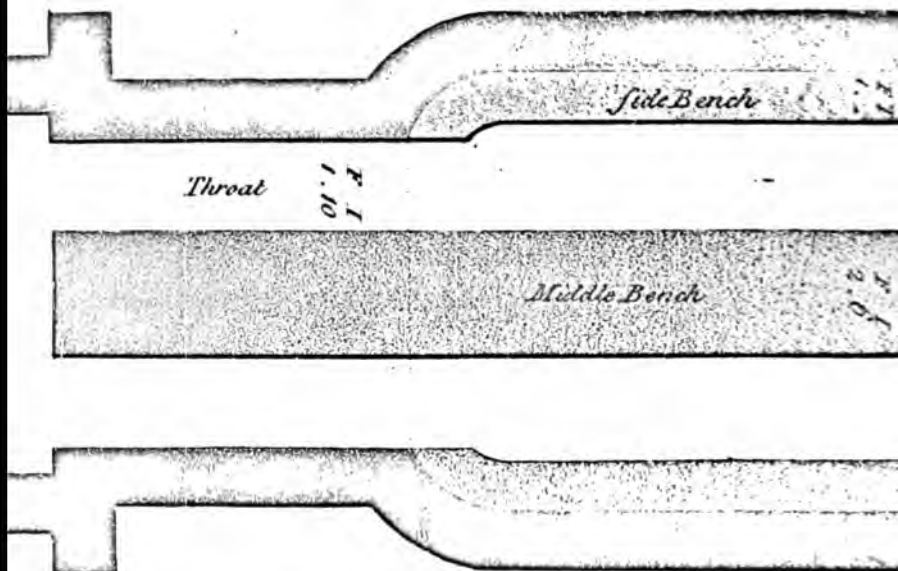
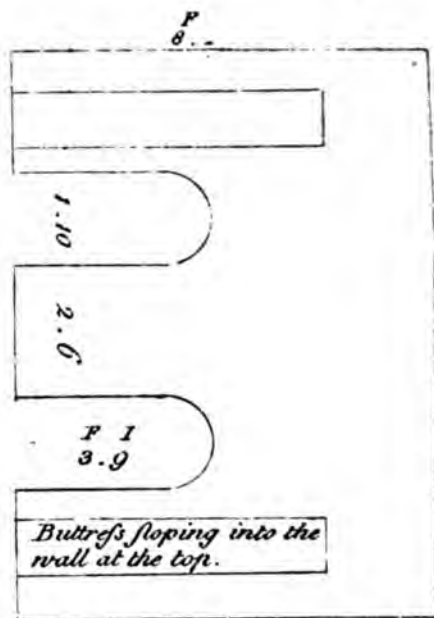
lime burnt from chalk, another great supply
in the bowels of the earth, in the Weald. Of
of Ashburnham is almost the sole proprietor,
test lime-burner in the kingdom, the spray-
his extensive woods being cut down as fuel for
These lime-works are situated in a valley sur-
woods. And as they are entirely of a different
to the foregoing, I shall in this place insert the
ount of one of them, with the process of burn-
with faggot-wood; accompanied with the plan,
elevation,

elevation, and section, of one of his Lordship's lime-kilns : for this account I am indebted to the spirited and enterprising superintendant of the lime-works.

The plan of the lime-kiln, drawn by a scale, and shewing the appearance at different heights, will enable a bricklayer to build one. It must be set into a bank of earth, and care taken that no wet can lodge in the bottom, which must be paved with brick—the breast wall, above the throats, may be done with stone, laid without mortar ; and the bricks in the inside of the kiln, may be laid either in loam or mortar. It will be necessary to have a rim of iron, about two inches wide, round the top and inside of the throats, to prevent the lime-burners from loosening the bricks as they put in the fuel. The bench is used to form a steady base for the arch to spring from ; and, when done with stone, it is never liable to be burnt, as the embers lie as high in the kiln, whilst burning, as the bench ; and if the stone is of that nature which retains its shape, during burning, without cracking or opening, it does not get sufficiently done. It has a hatch merely for the convenience of taking the lime out, and the size of it is not material, as, of whatever size it may be, it must be closed up with earth and stones, during the burning of the kiln. The first operation is the filling, done by forming the arches of the kiln, which are a continuation of the two throats to the far end ; and they are turned higher and lower according as it is intended to have more or less stone in the kiln, but they generally stand hollow about four feet. The arches spring from the benches, and care must be taken to fill up the sides as the work advances, and also the space upon the middle bench, or the arch would not stand. There is no occasion to be very particular as to the size of the stone in the arch ; but it may be put in as large as a man can readily lift.—The arch being turned, and safe, the largest stones, about the size of a
man's



Elevation of Front of the Throat.



Scale of Feet.
0 1 2 3 4 5 6 7 8 9 10

For remarks and additional
observations.

are placed nearest the breast of the kiln—when within two feet of the top, smaller stones are put within six inches of the top, the smallest of all, as possible. The kiln being now filled level with surface, it is then covered over with bricks; care is taken, during the operation of filling, to place bricks adjoining the sides and back part of the kiln, which assists the flame in penetrating through the meeting with some resistance from the closeness of the pieces at the top, is, by that means, thrown into the body of the kiln. This finished, a gentle fire is kept up with a moderate degree of heat for 24 hours—by which time the kiln becomes thoroughly heated, the limestone has done cracking, and the arch assumes a pale red colour. At this time the fire is kept on as quick as possible, there being now little chance of the arch failing. It is to be observed only, that towards the conclusion of the burning, when the kiln necessarily becomes very hot, for 10 minutes in every half hour, the fire may stop and put no fuel into the kiln, the operation will proceed on with the same expedition. When the limestone is thoroughly burnt, there is a clear appearance of sulphur upon some of the top, and an appearance of sulphur upon some of the sides may be generally seen in the hollowest parts of the kiln. It is then necessary to throw a little clay upon the tops of those bricks, in order to choak the fire, and to keep the heat elsewhere; and, by covering the surface with clay, the heat is gradually conducted over the whole. The bricks and dirt come from the lime without any loss; but it must remain 30 hours before it can be used. The tools necessary are,—a prong to push for the coals, and sometimes to lighten them up in the kiln; a long pole, reaching to the farther end of the kiln, for turning up the embers to make them throw out a fresh

fresh degree of heat ; a large hoe for raking the embers, and a large iron shovel-pan to carry them away. In putting the fuel in, the stronger end of the faggot is first thrust forward. Embers are worth as much *per* bushel as the lime, either for the use of the farmer or soap-boiler. The two sorts of limestone in use, are very different in the effect which the fire has upon them. The one, a grey stone, is a mass of marine shells, and the exuvixæ of sea animals ; this will at first bear the necessary degree of heat, without danger ; is very tough, and will open a little without flying ; but, upon fire being continued too long, will vitrify. The other is a blue stone, very much inclined to crack, and fly to pieces, and requires great attention to prevent the stone forming the arch, from breaking and letting in the kiln. By continuing fire too long, and too fiercely, it runs into a powder, although it does not vitrify like the other ; it is a much stronger cement than the grey, or chalk. At first difficulties may arise in the burning, and the stone may tumble in ; but be the difficulty what it may, care and perseverance will overcome it. It may not be worth while to bind the furze, when used as fuel, into faggots, but whenever it shall be burning as faggots or loose, it should be stacked when cut to retain its strength, and it may be used in its dry state : this mode, therefore, should be adopted. There should be water near the kiln, for the convenience of wetting the iron over which the faggots are put, and also for wetting the tools, and the ground round the kiln, to prevent the scattered faggots or furze from taking fire. The top of the kiln should be level with the surface of the adjacent ground ; and a drain should be made from the hatch round the kiln, to carry away any wet that may fall, and which would otherwise keep the kiln cold, and thereby waste the fuel.

The

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for the reception of the embers, will be most on the left-hand side of the mouths of the throat, of 5 or 6 yards, so as neither to give much conveying them from the kiln, nor reflect too degree of heat on the burner. For burning coal, is superior to the *flame* kiln; for no heat is flame kiln this is not the case, since a great deal, and much time also, is consumed, before it is dried. Chalk loses one fourth in the kiln. Those who for many years have limed with chalk till it is changing it for the stone lime, have reaped great so on the other hand, with stone lime. Variation is absolutely necessary *.

COURSE—and PRODUCE on the DOWNS.

Following systems of cropping their land, are adopted in Down farmers.

1. Wheat,	Wheat,	Wheat,	Wheat,
2. Barley,	Barley,	Barley	Peas,
3. Clover,	Tares or Peas,	Oats,	Barley,
4. Turnips,	Oats,	Clover.	Turnips,
5. Wheat,	Clover.		Tares.
6. Fallow.			

er-layer is usually manured or folded for the success of wheat; on the lower lands wheat is sown ploughings after peas or tares; but after turnips, ploughing is given. On stiff and strong loamy upon fallow is better than when it follows or tares; but after clover, upon the lighter superior. The best and most beneficial wheat-

At process of lime-burning, the public is indebted to the able the Earl of Ashburnham's lime-works.

F

fowing

sowing season, upon the South Down Hills, is from the middle of October until the beginning of November; and the quantity of seed is from 3 to 4 bushels. Some capital farmers sow from 2 to 3 only. A large quantity of seed clears the ground of weeds. By sowing after the month of November, the corn remains in the ground so long before it vegetates, that much of it is destroyed, and if frosts come in a late seed-time, the grain is cut off before the nourishment arrives. Where the light thin surface of the Downs does not cover the seed well, it sometimes happens, that the corn in summer-seasons is burnt up from the reflexion of the chalky soil; but this is the case only in scorching summers. The smut is an evil which they are very little subjected to. This disease in the corn is attributed to the almost universal practice amongst the farmers, of sowing the same sort of seed for a length of years, without giving the land any change. Or it is owing to a negligence in properly preparing the seed. Lime is the best preventive.

Method of preparing seed-wheat. The most beneficial method of using the lime in preparing the seed-wheat, which is put into practice by one of the best farmers in the county, is to have a sieve made about 10 inches deep, containing 3 pecks of wheat, which is dipped in a tub of sea-water, or into thick muddy pond-water; this causes the lime to enter the grain, and thereby to destroy effectually the insect. By this method does the lime work more powerfully than when dry; it leaves also a coat of lime upon the wheat, which, when the grain is dry, is not the case. Another reason for wetting the corn is, that by making the brine sufficiently strong to swim an egg, where no sea-water is to be had, all the light corn and rubbish floating on the surface is skimmed off, and the good wheat remains at the bottom. The common method of preparing seed corn is to soak it in briny, or sea-

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12 hours: the water is after this let off, and the
on the corn, mixing the whole together. Now
ion is performed at 5 or 6 o'clock in the morning,
ed is carried into the field at 7; consequently, the
aining so short a time on the grain before sowing,
e to enter and penetrate into the corn; whereas,
g the wheat, and leaving it until the succeeding
well limed, the lime has a greater power in de-
ne insect than when it remains on it for half an
when most of the lime is rubbed off the corn.
the brine has been heated, and then poured out
on the seed.

Following wretched practice is the general system of
the course of cropping the land on the tenantry
neighbourhood of Lewes.

at, 2, Barley, 3, Oats, or Peas, or Tares, 4,
turnips; but the more general system is to have
white corn in 6 years. A better method is the
1, wheat, 2, rye, and tares mixed, sown in
d September, and fed off in May and June, for
3, barley, 4, clover. Another arrangement put
ce by intelligent farmers on light land, is to
e land for wheat after tares or clover, then tur-
lover sown in Spring amongst the wheat. If
own after the wheat, the land is manured. The
e succeeded by barley or oats, and with the
and is laid down to clover. After remaining
the lay is then broken up, sown with peas or
owed by wheat. But on stiffer soils wheat is
e clover or tares, and seeds with it in the
e clover is either mown twice, or fed all the
it is then manured, and sown with wheat upon
ing. On wheat stubbles, turnips, spring tares,

or rye, or peas, are sown, succeeded by barley or oats, which, with clover and rye-grass, are sown, and the land laid down to grass. Upon the following course the seed and produce are as under :

1. Tares 3 bushel seed.
2. Wheat 3 ——— 32 gained.
3. Turnips 1 pound.
4. Barley 6 bushel seed 24 gained
5. Clover half a bushel, and rye grass half a bushel, or half a peck of trefoil, half a peck of clover, half a bushel rye-grass, for early spring feed.
6. Peas 5 bushel seed 30 gained.
7. Wheat 3 ——— 26 ———

A very bad practice is prevalent among the South Down farmers, of sowing wheat upon the turnip land.. Those that follow this are obliged to feed their stock upon turnips at that time of the year, when the turnips are of the least value, and when there is a plentiful supply of all other food, upon which the stock might be equally well supported ; and the sudden change from moist food frequently causes many disorders in the cattle and sheep.

The

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Following is the clear product of corn upon a capital
own farm, in the neighbourhood of Lewes, for

Wheat.	Barley.	Oats.	Peas.	Beans.	Tares.
Q. B. P.	Q. B.	Q. B.	Q. B.	Q. B.	Q. B.
5 0	6 0	7 5			
4 0	6 1	8 0	4 0		
5 0	3 1	7 5	3 2		
4 2	5 5½	6 7½	2 4½		
4 0	5 2	6 7	2 5	3 5	
3 0	3 7	7 0	2 7	2 7	
0 3	5 3	7 0	2 0	4 3	
4 2	4 4	6 1		3 4	
4 2	6 1	5 0	2 0	4 3	
6 0	4 2	5 2	5 0	3 1	
4 2	4 7	6 7	3 7		
0 2	5 1¼	6 0	2 2	Av. 3 5	
0 2	6 0	5 7			
1 1	5 5½	6 3	3 7		
0 0	6 1	6 0½	5 2		4 2
5 0	4 5	4 0	2 6		
7 0	5 5	8 7			
5 2	5 7	8 6			
6 2	7 4	7 6½			
7 0	5 5	6 2	2 2½		
4 2	Av. 5 3	Av. 6 5	Av. 3 1		

Of all the various sorts of artificial food, none
pared to saintfoin. We find not, however, one-
of what ought to be cultivated on the Downs.
is cultivated, they sow it in the Spring, with
is mown once for hay, and then fed off with
tle; but it should never be fed down very close;
t, by their close feeding, to bite the crown of
which very much injures the plant. Land, before
plant, should be brought into thorough order
g for two years, and when well laid down, it
12 to 16 years.

Rotation,

Rotation, &c. in the Rich Vale. Upon the fertile vale South of the chalk hills, the usual mode of cropping is ; 1, wheat, 2, oats, 3, tares or peas, 4, wheat, 5, clover, 6, wheat, 7, fallow ; that is, three crops of wheat, and one of oats, in 6 years, besides a crop of peas and the clover. This is a system adapted only to land capable of bearing such a method of cropping, from its very extraordinary fertility. But still greater is the surprize, when we find that wheat has been regularly sown upon these rich soils for 4 or 5 years successively, and that the produce has amounted to a quantity never less than from 4 to 5 quarters *per* acre. Throughout this rich district the average produce of wheat is from 4 to 5½ quarters *per* acre, and the seed 2½ bushels ; barley from 5 to 6 quarters, seed 3½ bushels ; peas 4 quarters, seed 4 bushels. The course of crops at Ford is, 1, wheat, 2, barley, 3, peas, 4, wheat, 5, barley, and this pursued till the land is thoroughly exhausted, and then comes a fallow.

Marl. Marling in this country has enriched numbers of the farmers. It is laid on the land from 10 to 1200 bushels *per* acre, but never repeated : the first 2 or 3 years the effect is scarcely seen. When there is any soil inclining to a reddish loam, upon that it best answers ; or with a mixture of sand. The practice which is found to be the most beneficial, is that of laying it during the winter upon a clover lay, to give the frost an opportunity of pulverizing and mellowing it. The general rule is, to lay it on the ground in the summer, ploughing it directly from 3 to 6 times for wheat. Chalk is used in the same manner as marl, and to a greater extent : the effects of it are visible for 50 years.

In this rich district, the following is another arrangement, and very generally adopted throughout the whole
 exten,

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his vale: wheat is sown upon fallows of 3 or upon a clover lay, or after peas and tares, generally twice ploughed before sowing; the seed is sown by barley, sown upon three earths; and by turnips, upon four. Winter tares are sown in shortes in summer, or as Spring food for

light gravelly soils North of Chichester, we find barley, 3, clover, 4, wheat, 5, peas, or 1, wheat, 2, barley, 4, clover. A method very commonly used to bring their land round in six *laines*, when it is in tillage, and in the following manner; 1, wheat, 2, seeds, lay, 4, oats, 5, fallow, 6, turnips, and so on; this method undoubtedly cannot be approved, as, upon the farms in this part of the county, it is not only an expense for keeping stock, but it is farming also at a great expence, as that course will occupy at least 5 teams in the management of 700 acres in this county. If we may reckon the expence of each team at 1000, laying 200 acres to saintfoin, and as much to turnips, in two years turniping, the yearly expence of 1000 to 2500 will be saved. This will enable the farmer to keep the remainder in exceeding good condition, having so much saintfoin hay to winter feed their cattle, besides two other great advantages, for, by having so much saintfoin hay, the sensible farmer will always feed his seeds, and by that means will bring his land round in four *laines* instead of six, and in much better condition, they choose to follow that course. Farmers are not fixed in their mode of management; many who follow the six-laine course, and others nearly in the same way, now changing it to four laines on the chalky and gravelly soils. A very excellent practice, to produce a success in Spring and Summer, is to sow upon the wheat

wheat stubbles in August or September, directly after the wheat shall have been reaped and cleared off the ground, about 3 or 4 bushels of tares to the acre; and after these shall be up, and cover the ground, to throw in another crop; and in like manner a third, as there will be about a month between the sowing the first and the last crop: a regular succession will by these means be ensured for the whole of the following summer—but, from the excellency of such systems, they are but seldom adopted.

WATERED MEADOW.

ON the Western side of this county, the admirable practice of watering their meadows in a regular manner, is very well understood, and very ably practised. The whole course of the Lavant river, from the Spring-head as far as Chichester, waters the finest meadows, and the most productive in the whole county. The water is let on to the grass in the month of December, when it waters the meadow for 3 weeks; this 3 weeks watering is equal to all the rest of the year; for, at this time, the moss is entirely killed by it, and the young grass will then begin to shoot out in a very luxuriant manner. In Spring watering, it is usual to let the water over the land 24 hours each time; and in May the watering ceases altogether. In July, from 2 to 3 ton of hay is mown *per* acre, and the after-grass, or *rouen*, fed with cattle till Christmas, but seldom with sheep, as they are apt to rot. If wethers or ewes, before lambing, were turned in, they would certainly die. Eighty ewes, from Weyhill fair, were turned into some land adjoining to a watered meadow: it happened that a score of these accidentally broke into the meadow for a night; taken out the following morning, they

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till lambing: the score, that had broke loose, lambs, all which lived, but every one of the rotten before May-day; the remaining 60 made fat, nor could a rotten sheep be discovered; several of these were put into the meadow lambs, but received no injury. The soil of this ground is either peaty or gravelly; it is cut into or 40 feet width, with a drain and water carriage land.

product. As soon as these meadows are mown, and put into them, at the rate of an ox from 100 to 2 acres, till Christmas; which, at 3s. 6d. per week, the accustomed valuation, is £.1 8s. 0d. in the months of September, October, November, and December. They are then taken up to the stails for wintering, and during the three succeeding months of January, February, and March, the same ground is stocked with a couple of ewes and lambs *per* acre, which, at 6d. *per* couple, for 12 weeks, is 12s.; this, in April, is increased to 5 couple for 6 weeks, which amounts to 15s. The hay is mown in July, and the ordinary

the account will stand thus.

Nov. Dec. $\frac{1}{2}$ an ox <i>per</i> acre, at 1s. 6d.	£.	s.	d.
— — —	1	8	0
March, 2 couple of ewes and lambs at			
— couple —	0	12	0
part of May, 5 couple for 6 weeks	0	15	0
Hay at 40s.	4	0	0
	<u>6</u>	<u>15</u>	<u>0</u>

G

The

The expences, &c. are

Rent	-	-	1	10	0			
Labour	-	-	0	4	0			
Watering	-		0	2	0			
Rates, &c.	-	-	0	6	0			
Tythes	-	-	0	4	6			
							2	6
								6
Remains, clear profit			3	8	6	per acre.		

SHEEP

S H E E P H U S B A N D R

O F T H E

S O U T H D O W N S.

For remarks and :
observation

the various features of the husbandry of this county is none so excellent, nor any management equal sheep husbandry of the South Down hills. The this breed, now so firmly established beyond all the innovations of interest or prejudice, is so unrivalled, rapidly extending its superiority in the Eastern and sides of the kingdom with a rapidity heretofore led in this kingdom. Wherever the horned flocks, Norfolk or Dorsetshire, come into competition, e a second comparative trial useless and absurd.

The breeds of sheep in this county are various. consist of the West Country breed (Hampshire, Dorsetshire); on the Western side of the county, Romney breed in the marshes; or, lastly, of the South Down breed (a native of the county), so called from the South Down hills, upon which they are fed. As this spreads the greatest part of Sussex, I shall be

more particular in my remarks upon them than upon the rest. It is the original breed of the county, pure and unmixed with any other. This breed is distinguished by being polled, and more compact, as their legs are shorter, than either Dorsets', Hants', or Norfolks'; for long-legged sheep have generally thin carcases; they are fuller in their haunches, and greatly outweigh the abovementioned sheep proportionably to their size of carcase; since they are weighty in a small compass. The colour of the leg and face is various; the true colour is a dark grey speckled face, inclining to black; the whiter coloured breeds being almost universally allowed to be unthrifty and degenerate. Deep brown, and black faces and legs, are much hardier; for white faces and legs do not stand the severities of winter in an equal degree, and they are moreover inclined to fall off in flesh; but a medium between both is the true colour, since black legs and faces not only produce lambs generally spotted about the carcase, but wool also liable to be so spotted, more especially about the head; and all black and dark-coloured wool is thrown together by the staplers, and sold at half price, as it will take no dye; for although the quality of it may be equal, at the same time it is fit only for particular purposes, as dark cloth. These sheep are sufficiently gentle and domesticated for an open country breed, for although they require little activity to fill their bellies on short keep between the hours of turning them out of the fold in the morning, and putting them in at night; still their activity and hardiness are unquestionable, when it is considered, that many are driven to water three miles, and as many back, every other day in summer; and they must necessarily possess a very considerable share of hardiness, as upon very high bleak situations, they are thoroughly exposed to the blowing winds and driving snows, and several of the finest woolled flocks have not been off these hills; and
this

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observations.

ears : their winter provision, which is hay, has been
em on the downs. The bone of this breed is small
n, the carcass straight upon the back, and wide ;
d a little higher in their hind quarters than in their
d the hind quarters are thicker, and when fat are
han the fore by 2 or 3 pounds—a criterion of great
the breed (as the hind parts sell at 1*d.* *per* pound
to be able to lay the greatest weight on the most
quarters of the carcass. Wethers are kept till they
2½ years old, and average 16 to 20*lb.* *per* quarter.
lity of the mutton is allowed to be equal to the best
and, and the wool little, if at all, inferior to the
; since the common practice of sorting the different
Herefordshire is not known upon the Downs. The
flock-masters sold last year their prime wool at 2*s.*
ound, and the inferior sorts as low as 1*s.* ; whilst
eces on the hills in this county sold as high as 2*s.* *per*
without any sorting ; a great superiority in favour of
h Downs. The average weight of the fleece is va-
d greatly depends upon the food eaten. In the
ed by East Bourne, Lewes, and BRIGHTHELMSTONE,
age weight *per* fleece was about 2*lb.* a few years
hich is increased half a pound within the space of
ars. The following is the number and weight of
the largest flocks in this district.

Average

Average weight of the South Down fleece.

Weight of a FLOCK at PATCHAM.

Year.	Number of Fleeces.	Weight.		Average.		Lambs.	Weight.		Average.
		Tot.	lb.	lb.	oz.		lb.	oz.	
1765	2290	144	22	2	1	810	302	6	
1766	2235	147		2	1	796	309	6	
1767	2220	144	25	2	1	860	390	7	
1768	2205	157		2	4	830	362	6	
1769	2180	160		2	5	800	357	7	
1770	2255	143	5	2	4	730	266	5	
1771	2110	134		2		780	250	5	
1772	2080	131	16	2		720	230	5	
1773	1960	133		2	4	820	290	5	
1774	2270	158	8	2	3	820	327	6	
1775	2285	165	12	2	5	870	333	6	
1776	2300	168		2	5	890	406	7	
1777	2350	170		2	5	970	384	6	
1778	2380	170		2	4	990	355	5	
1779	2260	150	12	2	1	950	335	5	
1780	2283	153		2	2	845	330	6	
1781	1840	120		2	1	730	222	4	
1783	1878	132		2	3	755	269	5	
1784	1850	142	25	2	7	800	259	5	
1785	1770	114		2		674	178	4	
1786	1680	101	10	1	14	713	185	4	
1787	1711	132	4	2	7	746	210	4	
1788	1827	126	9	2	3	725	202	4	
1789	1818	138	27	2	7	743	243	5	
1790	1773	114	20	2	1	703	297	6	
1791	1620	118	24	2	5	989	390	6	
1792	1730	127	29	2	5	1105	369	5	
1793	1815					1130			

General Average — 2 3

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AT

For remarks and
observations

A T F A L M E R.

Number of Fleeces.	Weight.		Average.	Lambs.	Weight.		Average.
	Tot. lb.	lb. oz.			lb.	oz.	
2200	187	2 10		900	430	7	
2200	181	2 10		800	303	6	
2200	170	2 7		850	398	7	
2200	170	2 7		900	474	8	
2200	167	2 6		900	424	7	
2200	174	2 8		850	420	7	
2200	163	2 5		850	410	7	
2150	160	2 6		850	400	7	
2050	163 16	2 8		1000	442	7	
1650	131 25	2 8		1100	475	6	
1700	148	2 12		1200	532	7	
1750	152	2 12		1250	741	9	
1750	148 16	2 11		1150	520	7	
1825	129 28	2 4		1275	500	6	
17 6	137	2 7		1200	500	6	
1800	136	2 6		1200	548	7	
1700	116	2 2		1150	439	6	
1750	127 6	2 5		1150	474	6	
1990	137 25	2 3		1150	540	7	
1783	98 29	1 12		737	287	6	
1700	108 4	2		1050	350	5	
1937	109 16	1 12		1005	300	4	
2140	148 24	2 3		1010	350	5	
2141	157 19	2 5		1180	527	7	
2020	104 28	1 10		1010	363	5	
2215	146 12	2 1		1125	445	6	
2172				1100			
General Average			2 4			6	

AT

AT PANGDEAN.

Year.	Number of Fleeces.	Weight. Tod. lb.	Average. lb. oz.	Lambs.	Weight. lb.	Average. oz.
1765	2620	174	2 2	1174	593	8
1766	2555	173 7	2 2	1128	561	7
1767	2969	289 18	3 1	1459	640	7
1768	2483	168 11	2 2	1009	504	7
1769	1823	128 8	2 4	659	355	8
1770	1836	116	2	550	270	7
1771	1790	117 18	2 1	590	292	7
1772	1646	97 30	1 13	534	255	7
1773	1786	124 17	2 3	688	300	6
1774	1898	132 16	2 3	747	320	6
1775	1933	140 18	2 5	840	333	6
1776	1990	145	2 5	850	350	6
1777	1980	147 27	2 6	846	368	6
1778	1976	140 17	2 4	843	346	6
1779	1964	126 8	2 0	848	309	5
1780	2001	140 14	2 3	884	330	5
1781	1985	125 11	2 0	792	284	5
1783	1995	137 2	2 3	871	328	6
1784	1933	148 14	2 7	779	270	5
1785	1831	122	2 2	727	287	6
1786	1788	115 23	2 1	705	242	5
1787	1757	112 112	2 0	740	270	5
1788	1690	128 13	2 6	806	307	6
1789	1750	146	2 10	889	350	6
1790	1760	125 13	2 4	805	319	6
1792	1786	135 25	2 6	843	340	6
1793						
General Average		—	2 4			6

For remarks and add
observations.

RD PELHAM'S. STANMER.

Number of Fleeces.	Weight.		Average.		Lambs.	Weight.		Average.	
	Tod.	lb.	lb.	oz.		lb.	oz.		
420	87		1	15	971	126	2		
367	90	19	2	1	964	321	5		
446	107	6	2	5	980	393	6		
500	103		2	3	1100	587	8		
600	115	21	2	5	1000	556	6		
500	117	20	2	8	1100	634	9		
General Average			—	2 4			6		

Bourne Custom-house, the total number of en-

Number of Fleeces.	Weight.		Average.		Lambs.	Weight.		Average.	
	Tod.	lb.	lb.	oz.		lb.	oz.		
5713	1854	23	2	1	7132	4008	9		
6999	1845	15	2	5	6901	3828	8		
8471	1574	14½	2	2	6303	3287	8		
4796	1612	5	2	0	7076	3545	7½		
5781	1819	0	2	3	7672	3586	7½		
647	1836	19	2	3	8123	3426	6½		
1032	1805	18½	2	7	7866	3843	7		
1032	2062	2	2	4	8176	4227	7½		
6638	2207	7½	2	7	8274	3981	7		
766	1874	20	2	6	7674	3233	6		
877	1760	3	2	1	6325	2184	5		
486	1873	28	2	2	7333	2489	5		
General Average			—	2 4			7		

the last 3 years, the weight of the fleece in this
good has not varied much from the above account.
The following flocks will testify.

H

Mr.

Mr. Thomas Barnards, of Jevington.

Year.	Number of Fleeces.	Weight.		Average.		Weight.		Average.	
		Tod.	lb.	lb.	oz.	Lambs.	lb.	oz.	
1790	845	47	2	1	12	406	160	6	
1791	787	52	20	2	2	565	178	5	
1792	818	50	3	1	15				

Mr. George Allfreys, of Frifton.

Years.	Fleeces.	Weight.		Average.		Weight.		Average.	
		Tod.	lb.	lb.	oz.	Lambs.	lb.	oz.	
1790	1618	88	0	1	11	922	240	4	
1791	1516	110	11	2	3	1063	378	5	
1792	1424	98	8	2	3	1019	322	4	

Edward Auger's, East Bourne.

Year.	Fleeces	Weight.		Average.		Weight.		Average.	
		Tod.	lb.	lb.	oz.	Lambs.	lb.	oz.	
1790	1798	97	0	1	11	617	216	5	
1791	1969	126	7½	2	0	778	288	5	
1792	2052	123	0	1	11	836	280	5	

Mr. Nicholas Gilbert's, of East Bourne.

Years.	Fleeces.	Weight.		Average.		Weight.		Average.	
		Tod.	lb.	lb.	oz.	Lambs.	lb.	oz.	
1790	960	54	16	1	12	316	91	4	
1791	980	68	30	2	4	437	117	4	
1792	1009	71	16	2	4	390	112	5	

Mr. William Denman, of Ralton.

Year.	Fleeces.	Weight.		Average.		Average.	
		Tod.	lb.	lb.	oz.	Lambs.	oz.
1790	1220	77	11	2	0	443	5
1791	1148	82	22	2	4	508	4
1792	1060	81	13	2	6	526	6

For remarks and add
observations.

crease of sheep in this neighbourhood has been but
of late years.

24101 sheep were registered at East Bourne.

27486, or about 3400 sheep increased in 20 years;
and for the same space, the increase of
Lambs, near 1500.

tries at Brighthelmstone, for the last 10 years,
have been

Number of Fleeces.	Weight.		Average.	Lambs.	Weight.		Average.
	Tod.	lb.			lb.	oz.	
4970	2543	16	2 5	19759	8498	6	
5192	2828	02	2 9	20540	8551	6	
6815	2400	15	2 1	19507	7026	6	
6652	2569	18	2 3	19759	6866	5	
6027	2405	24	2 2	20666	7112	5	
7988	2588	24	2 2	21236	7640	5	
9148	2953	12	2 2	22889	8549	6	
3202	2907	2	2 5	23144	8476	6	
2480	3061	5	2 5	24981	9614	6	
3258	3182	1	2 5	24866	10780	6	
General Average			2 4			5 1	

we find an uniform increase, in 10 years, of 8278
and 540 tod of wool. Also, 5107 lambs, and
of wool, in 1792, more than in the year 1783.

At Newhaven, in the year

Number of Fleeces.	Weight.		Average.	Lambs.	Weight.		Average.
	Tod.	lb.			lb.	oz.	
8428	2648	20	2 3	15901	7198	7	
2777	2995	13	2 4	21967	8033	5	

years an increase of 6066 lambs, and 4349

At Bexhill, were registered in the year

Year.	Number of Fleeces.	Weight. lb.	Average. lb. oz.	Lambs.	Weight. lb.	Average. lb. oz.
1780	10706	26791	2 8	2062	1455	11
1781	11785	43248	3 10	2271	1346	9
1782	10137	24519	2 6	1832	1191	10
1783	9377	23477	2 7	1644	1126	10
1784	9455	22531	2 6	1651	1052	10
1786	7838	19525	2 8	1678	1238	11
1787	7802	18639	2 7	1635	1017	9
1788	8921	22748	2 8	2423	1647	11
General Average			— 2 9	— 10		

Here is a decrease of nearly 2000 sheep, though the lambs have increased 400; but, in the year 1791, the fleeces again increased to upwards of 10,000.

Average weight of the Romney fleeces. The following is the quantity entered, with the average weight of marsh, or Romney wool, at Winchelsea, for the 13 last years.

Year.	Number of Fleeces.	Weight. lb.	Average. lb. oz.	Lambs.	Weight. lb.	Average. lb. oz.
1780	9627	44561	4 10	3816	4263	1 1
1781	8767	39576	4 3	3291	4136	1 4
1782	5753	36073	*6 8	2434	2437	1
1783	5707	28357	4 14	2199	2392	1
1784	9817	43225	4 4	3872	3720	15
1785	9845	42480	4 5	3321	3333	1
1786	6288	27249	2 12	2162	2142	15
1787	7682	34957	4 9	1897	2177	1 2
1788	6423	27819	4 5	2191	2732	1 1

* The average weight this year is evidently too high to be exact; but such is the register.

1789

For remarks and add
observations.

Number of fleeces.	Weight. lb.	Average. lb. oz.	Lambs.	Weight. lb.	Average. lb. oz.
5588	27662	4 3	2457	2713	1 2
6596	26967	4 1	2679	3888	1 6
6169	27667	4 2	2120	2567	1 3
6627	29339	4 6	2346	2722	1 2
General Average — 4 6					1 1

At Rye.

Number of Fleeces.	Weight. lb.	Average. lb. oz.	Lambs.	Weight. lb.	Average lb. oz.
53176	254956	4 2	5614	6684	1 3
60933	281646	4 8	21242	30477	1 6

is an increase of 7000 fleeces, and almost 16000
in 20 years, and the weight of the fleece likewise in-

for 12 years, from 1711 to 1722, the total number
of fleeces at Chichester were 632,980 fleeces and lambs ;
in the last 12 years, from 1781 to 1792, they had
increased in number 255,362 ; and the entries for the first
12 years, amounted to 5388 ; and, for the last 12 years, to

the district, traced out upon the map, by a line drawn
from Lynd to Newhaven and then to East Bourne, is grown
to be the finest wool in the county. Advancing Westward,
the weight is increased, whilst the quality is diminished ;
in the west of Arundel, the horned flocks, or the mongrel
between both, takes place ; but the west country
although coarse in its quality, compared with the
Down, will excel it by one sixth, reckoning the South
at 60, and the other at 40, the former will tod 15,
latter 8. It well deserves the attention of breeders ;
is a fact, no less remarkable than true ; confirmed

by repeated observation from various quarters of the county, that the finest fleeced sheep, with the closest pile, and thickest wool, have by far a much kinder disposition to fatten, and are from one to two months sooner ready for market, than coarse wooled sheep; and, in proportion to the fineness of the wool, is the disposition to thrive, and the quality of the mutton. This is confirmed by those that have made trial of the Leicesters; for the watery wooled sheep, those whose hair is long and coarse, were found to be much more unkind in their disposition for fattening. Rain and dews drop off a close coat, which is well protected by its density, whilst the long haired fleeces absorb the wet; and, as the wool of this breed is apt to separate on the middle of the back, it must consequently imbibe moisture, and make an opening for it to penetrate.

In a fleece of wool there is nine different sorts of wool, proceeding finer from the breech to the head in the following order, beginning with the coarsest, and finishing with the finest.

1, Lift; 2, livery; 3, abb; 4, second; 5, second fine; 6, running fine; 7, head; 8, locks; 9, choice locks: on coarse flocks there is only eight sorts. In the Western part of the county, owing to the various breeds, and the slovenly method adopted by the farmers in clipping the fleece, the generality is by no means to be compared with the fineness of the wool in the East; but, as it was before mentioned, the fleece will fetch more money.

Price of wool, and the progress of improvement in the West.—

The most astonishing advance of price in this article, within the 2 or 3 years last past, but more especially within the last year, high beyond expectation, has had such an effect upon some of the breeders, as to induce them to use the most spirited endeavours to produce this most valuable

For remarks and observations.

e. This has well answered : but, in these ex-
the value of the carcass, in the general eagerness
the fine wool, was lost, and here sheep were held
in proportion only to the quality of the wool.
of wool, and the improvements in the flocks
the last twenty years, on the Eastern and Western
the Downs, may be seen in the following table.

At this period no polled breed existed West of
Shoreham-bridge to the borders of Hampshire.
All the flocks were at this time Hampshires or
Southdowns. Wool was now

per tod.	Lambs wool 6d. per lb
6s. 6d. ———	—— 7 ———
8 ———	—— 7 ———
Wool on the coast 23s. ———	—— 7 ———
6 Coarse 21 ———	—— 6 ———
8 ———	17 ——— 5 ———

the neighbourhood of Shoreham, the quality be-
gan to be improved. Rams from the South Downs
were turned into some of the horned flocks, which
gradually increased every year, 16s. 6d. per tod.
coarse 16s. Lambs wool 5d.

per tod. coarse 18s. 6d.	Lambs wool 6d. per lb.
—— ——— 20	—— ——— 5 ———
—— ——— 20	—— ——— 5 ———

The wool of Lord Pelham's flock, in the neigh-
bourhood of Brightelmstone, sold this year for
3s. per tod. At Arundel, wool sold for 21s. near
Shoreham-bridge for 23s. per tod. Short lambs for
4d. per lb.

The quality greatly increased about this time.
between Arundel and Shoreham, South Down wool
sold for 25s. per tod ; horned flocks 21s. coarse 20s.
per tod ; lambs 5d. per lb.

- 1784 The same wool as last year now sold for 29*s.* *per* tod; horned 25*s.* coarse 24*s.* *per* tod; lambs 5*d.* *per* lb. About Sompting and Findon 32*s.* In the neighbourhood of Brighton 37*s.* *per* tod.
- 1785 Horned 26*s.* *per* tod. At Sompling and Findon, fine wool 33*s.* coarse 24*s.* *per* tod; lambs, 6*d.* *per* lb.
- 1786 Horned 24*s.* *per* tod. At Sompting and Findon fine wool 28*s.* coarse 23*s.* *per* tod; lambs 6*d.* *per* lb.
- 1787 Horned 27*s.* fine 32*s.* coarse 26*s.* *per* tod; lambs 6*d.* *per* lb.
- 1788 A greater number of the South Down rams having been now turned amongst the horned flocks, the wool fetched this year 30*s.* coarse 29*s.* fine wool, this year, 34*s.* *per* tod; lambs 6*d.* *per* lb.
- 1789 Fine wool 34*s.* coarse 28*s.* horned 30*s.* *per* tod; short lambs 6*d.* long 7*d.* *per* lb.
- 1790 Fine wool 32*s.* *per* tod. The wool that was horned, now converted to South Down, from 28*s.* to 30*s.* coarse 26*s.* *per* tod; lambs in general 6*d.* *per* lb.
- 1791 Fine wool 37*s.* Some few horned flocks left, from 30*s.* to 34*s.* coarse 29*s.* *per* tod; lambs 7*d.* From Michelgrove, Stoke, Westburton, Westmarsh to Arundel, the quality very greatly encreased; which sold this year from 37*s.* to 39*s.* *per* tod.
- 1792 Fine wool from 48*s.* to 54*s.* coarse 40*s.* *per* tod; lambs 10*d.* *per* lb. in general.

Number,

For remarks and addi
observations.

weight, and value, in the East. In order to
the prices of the fine wooled fleeces in the neigh-
of Lewes, with the coarser sorts in the West
the same period, the following is the quantity,
and price at which the fleece was sold, of one of
best flocks in the whole county for 23 years.

No.	Number of Fleeces.	Weight.		Price per tod.
		Tod.	lb.	s. d.
0	833	54	16	at 31
1	845	56	23	32
2	814	50	9	31
3	887	61	16	28
4	1015	70		29
5	1025	69	17	31
6	994	66		31
7	828	61	19	29
8	907	62	4	26
9	1121	67	14	24 6
0	1294	87	7	29 6
1	1287	87	14	37 3
2	984	67	3	37
3	1052	72	24	34 6
4	1007	72	18	38 6
5	1112	74	20	38 6
6	1261	91	21	36 6
7	783	55	10	40
8	1013	80	9	41 6
9	1069	91	6	40 6
0	1003	76	19	43
1	974	83	8	47
2	976	81		64

T

At

At Shoreham, for the last six years, the fine wool sold
at the following prices

	s.
1787	36 <i>per</i> tod
1788	36
1789	37
1790	38
1791	42
1792	57

The great object has been the improvement of the fleece.
—To advance the quality has been the main point to which all the care of the flock farmers has been principally directed, the carcass being an object but of secondary consideration. In regard to the method of improvement, an excellent farmer on the Downs, at his first setting out, was very particular in the ewes, and ewe-lambs, which he bought; of the latter he bought a third more than he wanted for the succeeding year; and when they were two-toothed, he kept only such as he liked best, to breed his flock from; at the same time he was very attentive and careful in chusing good rams. Though five years only have passed, since he first began the improvement of his flock, he has now, by unremitting attention, reared in the centre of the Dorsetshire breed, as fine a flock of South Downs, both in regard to the wool, and the shape, as any in the Western side of the county. The leading object with him was, to give the greatest attention to his rams; and to draw from the flock all that were defective, either in wool or shape, or in any other point whatsoever. This spirited improver prefers the weight of the fleece to the quality, observing that a fleece of 2 lb. at 20*d.* *per* lb. is greatly exceeded in point of profit, by the coarser but weightier breed. His own flock averages three pounds and a quarter to the fleece, at 18*d.* *per* lb. The sort of sheep preferred
here,

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the mottled faces and legs, with a fine head, a wide shoulders and loins, and with the wool to the hock, and under the belly, for in the Eastern Downs great complaints are heard, that in a long time, the lambs perish for want of wool to keep them warm. There is often found, even amongst the flocks on the hills, a coarse spiky hair projecting more than an inch above the main staple of the wool, which, when the fleece comes to be worked up, very much puzzles the manufacturer, who is obliged to draw this coarse hair out, before it can be manufactured. To remedy this has been very particularly attended to in a few fine flocks, which is done by drawing off all the fleeces which possess this defect.

Though the carcass has been neglected in the general prevailing in favour of the wool; still some of the breeders have lately been turning their attention to it, and have now discovered that so far from fine wool being incompatible with a fine form, the fact is now clearly proved, and established, that the finest fleece is produced in the best carcasses. Turnips, rape, clover, and other green food, is a great enemy to the production of fine wool, as the richness of the food renders the growth of the wool luxuriant: some of the finest wool in the county of New South Wales and Newhaven, is grown on flocks that never taste any green food. The seasons have a great effect in the growth of wool. The time of the beginning of June for the flock, and for fat lambs, is the best; and, if the season is favourable and a greater proportion of wool will be gained the following summer. The herbage on these Downs is a short but remarkably sweet food, peculiar to the hills, which gives the flavour of the mutton so excellent, and the flesh so fine, and the wool, at the same time, is highly superior to that grown on flocks fed by any artificial provisions, &c.

Disorders. The disorders to which the South Down sheep are exposed, are the gall, the redwater, and the being paterish. The gall is a kind of purging which generally continues till they die, and is occasioned by feeding on land lately folded, in wet weather, such as rape, turnips, &c. The redwater is a dropsy, and proceeds from the sheep being let out of the fold, when the ground is covered with hoar frost. A paterish sheep appears totally deprived of its senses, and is continually turning round instead of moving forward. This disorder is occasioned by a bladder of water that surrounds the brain; for which there is no remedy. The rot is common to the South Down sheep, but it is never caught upon the hills; it is caused by their being put out during the winter to the Weald, or by being turned into the marshes to fat. Indeed, it appears that the cause of every disorder is attributed to feeding the sheep on wet lands, and in moist seasons; and they break out chiefly in the winter and spring months, which is an additional reason, as they are exposed to it in the wettest seasons of the year. Hampshire and South Down sheep are equally subject to the *scab*, caused by their being overheated; in its effects it is similar to the itch; the remedy for which is—wild vine root, tobacco, and brimstone, boiled in brine for the space of fifteen minutes, strained off, and kept for use; when it is poured upon the part affected, the wool having been first separated.—Or, boil $\frac{1}{2}$ a pound of tobacco in 2 gallons of brine till it is half wasted; then stir in $\frac{1}{4}$ of a drachm of sublimate, and the same quantity of precipitate; $\frac{1}{2}$ oz. of verdigrease powder; 2 oz. of sulphur; and 1 oz. of allum. Another disorder these sheep are subject to (in common with other breeds), is the *fast rot*; this last must be dressed with hot oils (oil of vitriol, and spirits of turpentine), having first cut away the root of the disorder—*or*, $\frac{1}{2}$ oz. of sugar of lead; 1 oz. of Roman vitriol; 1 oz. of

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ase; $\frac{1}{2}$ pint of turpentine; all mixed together :
be cut away to the bottom of the complaint ;
g well shook together the contents, apply the

ment of their flocks. The mode of managing their
to preserve the ewes and rams with the finest
best shaped carcases, which at Michaelmas are
to the Weald to keep amongst the small farmers.
owing Lady Day, when they are again brought
folded by themselves until they are 18 months
re turned into the breeding flock. The farmers
their tegs and lambs into the Weald, are
one in 20 or 15 is lost, as all losses fall to the
owner; for those that die, no expence of
lowed. If it happens that the weather is un-
bad, and the snow deep upon the ground, a
food is given them, and the extra expence al-
the owner; the expence of keeping them is 3s.
October 10 to April 5, that is 6 months: but this
as so frequently been attended with fatal effects,
of the farmers are endeavouring to arrange their
der to preserve them on their own farms. At
usion of the month of October, the rams are
to the flock, at the rate of 1 for 50 ewes; and
d and fourth year, sometimes even every second,
are exchanged with their neighbours who possess
ocks. This practice is done in order to preserve
size, and quality of the sheep, as the lambs
erwise be very weak—a method diametrically
e of the Leicestershire custom. An excellent
the South Downs, who has raised his flock to
est degree of perfection, in turning his rams
e ewes, selects 60 of his best ewes, to which he
puts.

puts his best ram, preserving all the ram lambs. After this he turns into his flock his three next best rams; and about 5 or 6 days after this, he adds two more, and continues adding two every four or five days, till the number is completed; by this means his best rams have the most ewes to cover.—The rams remain with the flock usually about five or six weeks. The latter end of October, or the beginning of November, the flock goes to turnips, rape, &c. where provisions are plentiful; and, upon the sheep being first turned in, the *redwater* frequently attacks them, and particularly in wet seasons, when they take in too large a quantity of fluid: this is immediately prevented, by giving them a very small portion of hay with the turnips. Between Christmas and Lady-day, flocks suffer more than at any other time of the year; for the hills at this time become bare and scanty in food, and the sheep at this time are exposed to the inclemencies of the winter; and those farmers that have no green provision, have a stock of hay, or sometimes saintfoin stacked upon the Down to give them during the continuance of the severe weather. The best time for lambing is about the conclusion of March, at which time the flock is taken from off the hills, and turned into the inclosures, with every requisite accommodation during this critical period. Where farms are large, and provision in abundance, the flock is at this time folded upon rape and turnips; it is here that the winter and spring provisions becomes a much more important branch of economy. Where such are the conveniences, in winter they give them turnips and hay—in spring rye-grass, clover, and rye,—and tares and rape during the summer. Some farmers draw the turnips out of the ground a few days before they are folded with the sheep, by which means they are not so likely to burst, which sometimes is the case when the turnips are not drawn. With this green food or a little

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observations.

always be allowed, as being necessary to counteract of the water; one half, or even a quarter *per diem*, will effect this. Turnips will last from Michaelmas to Lady-day, with good management and favourable weather. About 12 weeks after the fall of the year they are weaned upon clover or tares.

Spring provisions. Respecting the provision of arable lands, tolerably clean and in heart, or sufficiently so with manure, are ploughed in September, October, and sown with winter tares, rye, according to the nature of the soil, as tares on the light, and rape chiefly on the chalky soil. The crops come in sufficiently early, to be fed off in May, when turnips are finished, and are sold off as turnips. After they are eaten off, the land is again ploughed, and spring tares are then sown, ready to be fed in the end of Autumn, when the admirable order for the ensuing crop of wheat, or rye, is favourable, or for barley and grass seeds. The quantity of seed is usually about a bushel of tares with five pecks with half a bushel of rye; a mixture excellent for horses, and answers better than for sheep. Two to three bushels of rye alone will raise a good crop for spring food.—The mixture of tares answers well for foiling; for the horses are foiled when the tares are young, and have no great quantity of them; and the rye is a very dry food, which counteracts the moisture of the tares; and, by sowing rye, with the tares, the crop turns out far more early, and is supported by it; but, for sheep food, this is equally bad; for the rye and the tares being sown in September, the former, on good land, will be fit for the middle of April, and the tares by the middle of May.

the middle of May, upon the same soil: if the rye is preserved until the tares are ready, the rye will hardly be touched, or only trod down—one of the two must be spoiled.

Thus we find, that instead of an unproductive fallow, the skilful and active farmer raises two crops of tares to answer the great purpose of fallowing (cleaning and meliorating) equally well. The ploughing is at a season of the year when the ground can easily be worked, and in the Western part of the county, with a light plough, two horses, and one man, who both holds and guides the plough; which, upon calculation, is an immense saving of labour; whilst, at the same time, he secures to himself food for his stock, at the most critical period of the year, and enriches the ground with the manure arising from the fold, or stock, fed on it. In the neighbourhood of Shorham, the land is laid down with rye-grass, for two years; during this time it is twice folded; then broken up, and 2 bushels of tares, and 1 gallon of rape, are sown in May or June; and fed in August and September. By these means one acre and 29 perch are found sufficient for 400 ewes, for a week. The value of the food, at 2*d.* each, for a week, is 3*l.* 6*s.* 8*d.* The fold 1*l.* 5*s.* which together, amounts to 4*l.* 11*s.* 8*d.* the value of the crop, for seed and fold. The expences in ploughing, harrowing, seed, &c. rent and taxes, &c. is 4*l.* 6*s.* Now what admirable management is here?—breaking up a layer, afterwards to be sown with wheat; the common system would be an useless and barren fallow; made at 4*l.* expence, *per* acre. But laying aside this most barbarous practice, here is a crop of rape and tares—expences more than paid, and the land in hearty condition for the succeeding crop.

Amongst other accounts of the Winter and Spring provision for a flock, an instance or two is here selected of

For remarks and additi
observations.

quantity of food for a stated number of sheep,
a view of pointing out the allowance, and
is in this part of the kingdom.

Stock (the joint property of several people)
the parish of Denton, which consists of 600
s, has no other provision than the Downs,
of hay excepted) for the whole year. This
consequently live there for almost the whole year,
of 13 months; and, when not there, must be
. Now, throughout the whole extent of the
r wool is not to be discovered: which is a fair
the quality of the wool depends on the sort of
smallness of the artificial food, for wintering
give every one a very high idea of the breed
times so small a portion. In the parish of Ad-
s of rape, and 8 or 9 load of hay is sufficient for
farm at East Bourne has, of rape, turnips, tares,
, only 40 acres, with 15 ton of hay, for winter-
ep, those being selected which are sent into
the Down is only 450 acres. Another con-
in this neighbourhood, has, for 1000 sheep,
turnip, 10 of rape, 30 of rye grass, and 500 of
ton and $\frac{1}{2}$ of hay *per* week; and 1 rood of
ay, excepting lambling time, as rape is better
d turnips extend the udder without giving to it
of milk. At Bedingham, 300 are kept a month
es of turnips, and 30 cwt. of hay. Winter
5 acres of turnips, and 10 tons of hay, to
ewes, for four months: after this, 4 acres
and 4 of cole seed, till the middle of April,
y go to the clovers, rye-grass, &c. and the latter
they have 12 acres of tares, and rye mixed;
es of down. Old ewes are here turned off
e years old, and weathers at two and three;
ofit, should certainly go earlier: they are

K

bought

bought up at the fairs for the Weald, and other counties in the neighbourhood.

A large farm near Lewes, consisting of 1627 acres, is divided into

Down	800
Arable	500
Meadow and Pasture	327 — 1627 has 2200 sheep
40 working oxen	
27 horses	
18 cows	
18 calves	
18 yearlings	
18 two yearlings	
18 three yearlings	
50 Swine	

The winters and summers food for this stock of cattle sheep is,

turnips	30 acres	
saintfoin	30	
clover	50	
rape	16	
tares	50—176	Down 800

The down will maintain the sheep according to its quality. Glynd and Ringmer Down, containing 1100 acres, maintains 5000 sheep and lambs for 6 summer months, and 2600 for the remainder.

In all these accounts, a most decided superiority is immediately discovered over other breeds, in the small proportion of food allotted for the maintenance of such numerous flocks. It is the excellency of the breed united with the foregoing circumstance, which occasions this, since, in all seasons, both winter and summer, recourse is had to it for food. If the small proportion of stock to the land, is extended over the whole tract of Down land, and other

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observations.

s between the hills and the coast, so as to
a tract of 150,000 acres, the stock of sheep
surface, does not at all fall short of 270,000 in
and 220,000 in winter.

Western part of the county, over that district
between the Coast and the Downs, another
breed, and another breed is found: the sheep
dominant in this quarter, is the Dorset and
at the South Downs have lately been rapidly
in the district. The management of the far-
mers, to buy ewes the beginning of October,
fair, that have taken the ram; they are
upon turnips, 100 couple of ewes and
4ths of an acre *per* week, as soon as they have
the soil here is particularly well adapted for
which have been raised 3 and 4 feet in circum-
ference 34 lb. The tankard sort is sown when-
ever the succeeding crop, for they produce more
earlier season. The Dorset lambs go to Smith-
field, and the Hampshires in July. The ewes are
sent, when they go off fat, to the same market.
There are allowed to pay all expences, and the
wool to be clear profit. In the rich vale the
land in fattening (for there are no flocks) is to
West country breed; and when the lambing is
which is by new Christmas, they are then turned
to grass, which serves them till Lady Day; they
are fed on the young clovers, and the lambs are
in April and May, from 21s. to 30s. each; the
are fattened and go off at Michaelmas. Lambs
11 to 14 lb. *per* quarter, and ewes from 18 to
200 lbs from 8 to 10 fleeces, which last year
per tod. To fat 120 couple requires 15 acres

Great has, of late years, been the increase of price in the articles of sheep and wool in this county.

1783	Old ewes from 4 to 6 years old bought			
	14s.	Lambs	10s. 6d.	Wool 30s. per Tod.
1784	15		11 6	28
1785	18		11 6	33 6d.
1786	19		11 6	35
1788	20		12	37
1789	22		13 6	40
1790	24		13 6	42
1791	24		13 6	46
1792	28	Ewe lambs	16 weather lambs	18 wool 64s.

From this we see how great the increase has turned out for these last 10 years.

1783	Ewes sold for	14s.	ewe lambs	10s. 6d.
1792		28	16	weathers 18s.

But in wool the encrease has advanced still higher.

1784	wool sold at	28s. per tod.
1792		64

A practice has lately been introduced into this county, from Leicestershire, which is the custom of letting out rams by the season. It is not long since, that when a lot of ewes were bought at a fair, it was usual to throw in the rams, as of no account. But how widely different is the case at present, when they have been let, this season, by Mr. Ellman, for twenty guineas each ram!

Romney

For remarks and addit
observations.

ed. In the marshes bordering along the county
the Romney breed is established; the fertility of
land is prodigious; but, notwithstanding the
that it bears, the grass vegetates with such a
in warm weather especially, that the coarse
stantly mown, and which the stock will not
acre will maintain, in a fattening state, at
6 wethers for the summer months, and 4 for
without other food: a good piece of 3 acres
and a bullock. Some of this land will bear a
proportion. Forty acres at Winchelsea of very
30 Welsh runts, besides 200 marsh wethers;
during winter:—in April they are increased
other score are added in May; and June 1st
increased to 195; in July to 204. In October,
stock is turned in.—Pevensey marsh will fatten a
acre, of 140 stone; the usual time for it is
ths. The average quantity of stock which
es fat, is about 5 sheep *per* acre for one year;
140 stone, besides lean stock.

from this breed is coarse, but abundant. A
ther will average above 6lb. of wool, and from
per quarter, and a breeding ewe 5lb. of wool;
ty is not equal to the wool from shearlings:
f shearing is about the beginning of August,
are all clipped at 1*d.* *per* fleece; which last sold
last year.—In these marshes, from Hastings to
is not more than one South Down to six or se-
s. Sheep are very considerably increased of
and the oxen diminished in the same proportion;
ere was one sheep in these levels ten years back,
to be found. The Romney breed on this
decidedly preferable to the South Down, and
nsumed, in proportion to weight, the graziers
think

think is not more than in the other breed. Marsh wethers will fatten sooner than South Downs; but the others are preferred by the country butchers, as small quarters sell better, and keep in hot weather much longer. Old ewes are turned off to the butcher at 5 and 5 $\frac{1}{2}$ years old.

In the Weald of this county but a very small proportion of sheep are produced;—by hollow draining, and a different system in arranging their land for the support of the animal, a far greater proportion might unquestionably be reared, even in its present state; many thousand acres in this extensive tract could support ten times the quantity now kept. The Weald, containing above 700,000 acres of land, at present, maintains only 70,000 sheep; and, by moderate calculation, would equally well support 500,000 more, if the size of farms were increased, the inclosures opened, and woods cut down—but to enlarge upon facts so notorious is unnecessary.

CATTLE FOR DRAUGHT, FATTENING, &c.

THE cattle in this county are universally allowed to be equal to any in the kingdom. With respect to those points which constitute a well-made beast, nothing short of experience can be relied upon. The true cow has a deep red colour, the hair fine, and the skin mellow, thin, and soft; a small head, a fine horn, thin, clean, and transparent, which should run out horizontally, and afterwards turn up at the tips; the neck very thin, and clean made; a small leg; a straight top and bottom, with round and springing ribs; thick chine; loin, hips, and rump, wide;

For remarks and additional
observations.

jection of the round bone is a defect as the
to this are usually coarse; shoulder flat, but
of the point of the shoulder not liked; the
e rather short; carcass not large; the tail
l with the rump; a ridged backbone, thin
ines are great defects in this breed.

ves usually from one to two gallons of milk
from three to four pound of butter in sum-
but butter and milk are no objects where the
ng their young stock is so well understood,
more profitable. The breed spreads all over
their rearing system is to have the calves
onth of January, which is the best and most
n, although with some graziers two months
r time; 12 weeks is the usual time of suck-
y are weaned; or, when they are a fortnight
hobbed upon skim milk; after being weaned,
d to grafs during the summer; and, the fol-
, are fed upon hay; and upon straw the
At $2\frac{1}{2}$ year old they are broken in; at 3,
ed for 3 or 4 years, very seldom any longer,
fatted, or sold to the marsh graziers; but
especially where the very profitable arrange-
and marsh is united in the same farm, have
tunity of fattening these oxen, that they
the highest advantage. Those who do not
buy in oxen at 4 or 5 years old, for 10 or
eping them till they are seven, and then sell
13 to £.14 each; so that these farmers con-
and sell out every year. But those who rear
rk them for a time, and afterwards fat them
them into the marshes for the summer, and
n taken out, half or three quarters fat, upon
oes, or turnips, mixed with as much hay
as

marks and additional
observations.

as they can eat during winter and spring, although quantity is trifling, especially when the oxen are fat. Oil cake is given in December or January, being fed with it at first with a very small quantity which is soon increased to 5 or 6 cakes *per* day weighing 5lb.; those cakes cost from 8 to £.10 *per* hundred. Of potatoes, the usual allowance is $1\frac{1}{2}$ bushels *per* day, with hay. In the neighbourhood of Battle, no allowance is given from October till February, or for 18 or 20 weeks, the ox weighing from 140 to 160. In the breeding system, the ox regularly increases in weight from the time of his birth till the day he is slaughtered.

	£.	s.
At weaning he is worth	—	— 2 1
At one year from ditto	—	— 3 1
At two years from ditto	—	— 7 6
At three ditto	—	— 10 6
At four ditto	—	— 12 1
At five ditto	—	— 14
At six ditto	—	— 16

Oxen, when fattened on hay, require near a month to be made fat; when fattened on oil cake taken from the pastures in good condition, and half cake for six weeks before Christmas, and as much after; being allowed at the rate of 3 cakes for the first 4 for the second six weeks, when they are fat: in 1 they eat 322 cakes, which, at £.10 *per* 1000, amount to £.3 10s.; in May they consume the value of £.2 1 together the cost in fattening £.6. At Shoreham, runts are bought in at Michaelmas for 9 or £.10, or 11 months after are sold for 15 or £.16 each. the middle of October, until to the middle of No

For remarks and addi
observations

turned out during the day, and taken up at
n 4 gallons of potatoes, besides hay, are given
t. Nine oxen will eat and destroy as much
in the yards, as 13 oxen tied up to the rack
ne.

TAUGHT. In Yokes—and Harness—compared.

number of oxen employed in a single plough is
ly great, not less than from 8 to 14: eight are
m; but upon stiff land 10 or 12 are in use; they
such numbers, because they are apprehensive that
loy the full strength of their oxen in drawing,
very much injure the growth, and that the
d not fat kindly. For this reason, they work
very other day, or but lightly; as the profit of
n a fattening or improving state, is a considera-
e greatest importance. Some soils, of a sandy
so liable to worm, that were not the farmers to
d thoroughly, with very heavy rollers, or to
h oxen and sheep, the corn would be destroyed.
a, containing 200 acres of arable land, employs
g oxen, besides 9 horses. The proportion of
till higher. This farmer uses four horses and
100. Certainly, by differently arranging the
the working of oxen, a great expence of labour
might be saved. The general method is, to
m in yokes, which very much impedes their
taught. The intelligent and sensible farmer has
that the proportion between ploughing them in
d yokes, is so great, as to make five in harness
ght in yoke. The work is more easily executed
s proportion; and the land better cultivated. I
ate sentiments of an opposite nature. A most

L sensible

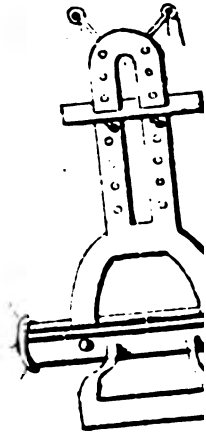
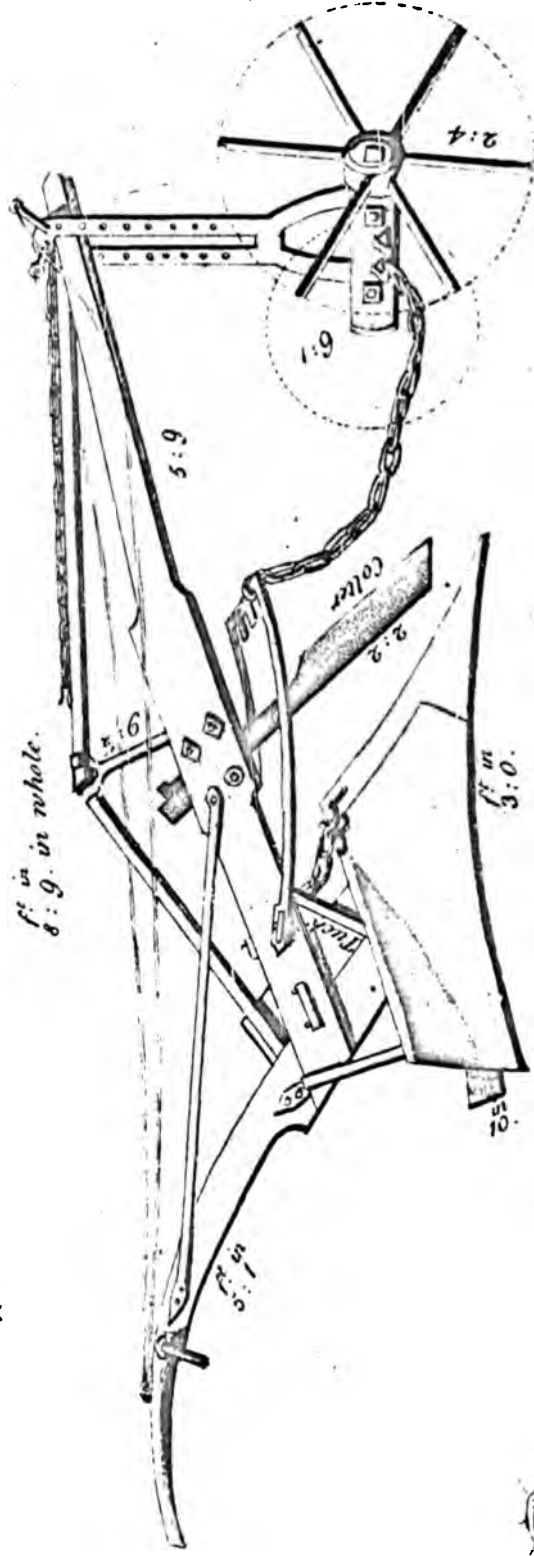
sensible farmer, strongly impressed with the idea of the superior advantages which would result from the introduction of harness instead of yokes, then universally in use in his neighbourhood, purchased immediately harness for 6 oxen, and worked in this manner some 6 and 7 years old cattle, which he had purchased in the country at an age, when, having attained their growth, they are commonly either sold or fatted. They were soon reconciled to harness, but were much more sluggish than younger oxen, and though many were not necessary to draw a load, that load moved but slowly; and when they were required fully to exert their strength, they could not do it without extraordinary food, both in quantity and quality; which their work could pay only, there being no hopes that an advance in their growth would contribute towards it: after working them some time in harness, he resolved to fat the old ones; and, in the mean time, having purchased many 3 and 4 years old, he worked these in yokes; as upon close and attentive observation, he saw, that hard work would stop their growth, and that, without any inconvenience, they could use as much power in yokes, as it would be prudent and beneficial to permit them to employ. He perceived that the trouble and expence of harness, of course, would have been thrown away, even though these oxen might have been capable of drawing a greater weight in harness, of which he has now some doubts. In Summer he found the harness an incumbrance, the ox requiring all the relief and liberty that can be given in hot weather; and that the yoke left as much as it is possible for any animal to have whilst labouring. And he thinks it neither unnatural, nor improper, to place the point of draught upon the neck of the ox, just before his shoulders, that point seeming adapted by nature to bear the pressure. He never had an ox galled by his labour; and he finds, that

For remarks and addit
observations.

much seldomer galled by the yoke, than the horse
lar, which is, however, adapted to the form of
as, under a yoke, he could not work one hour.
er conceives that the system of working, only
table, whilst the growth of the ox, nearly pays
ping, and that it cannot do when the ox is hard
He thinks, that in the nature of the ox there
es as opposite to quick, or severe, labour; for
ox is driven beyond his strength, or wind, he
unfit for service for a great length of time, and
ently falls a sacrifice to the exertion of a single
hen the ox is brought low in flesh, no art nor
peedily put him into condition. This farmer
, that as the horse is otherwise formed, he will
treme of heat and cold, most frequently without
d if brought low by labour will, in a short
attention, and proper food, recover his flesh;
all severe or quick labour, horses are undoubt-
preferred, and oxen are only profitably em-
easy regular business, which they will perform in
hout any perceptible inconvenience. This has
m to lay aside harness entirely. If it is desirable
t of the wet state of the ground, to plough with
e; some farms frequently use a particular kind
r this purpose. When he first came into this
he thought it preposterous and unnecessary to use
mber of oxen in ploughs, harrows, carts, or
and imagined it proceeded from their want of
okes; but, he has discovered, that the practice
of, or is a part of, a system proper in using oxen,
ery far from requiring the application of their
th, during the time they are at work. Notwith-
hese remarks, by comparing together the obser-
ade in various parts of the country, with respect

to their draught, we find it positively determined, that not only their work is more expeditious, and their labour more easily effected in harness, but that upon all the soils of the stiffest nature, full one half of the number might be spared, by a different mode in the draught. It is ridiculous to place the losses by working, and by impeding the growth of the latter, in comparison with the advantage of reducing the expence and labour of a farm, a full half. Respecting the mode of working their horses, as practised at present; here likewise a most amazing expence might be avoided. The accustomed allowance gives four to every plough, and we find none without 3, except the newly improved plough, which, in a few places in the West, has banished the old and clumsily constructed wheel plough. This new wheel plough is drawn by two horses abreast, without any driver, moves well in stiff land, and ploughs 3-4ths of an acre of land, in the same time that a full acre is ploughed by the old plough. A driver and two horses are at one stroke cut off; but this is not all; more land is ploughed, and better, in the same time. But, in the Weald, a very strong plough is required to break up their stiff soils. The plough most commonly used, is the turnwrist, which breaks up land from 5 to 7 inches deep better than the foot ploughs used in Suffolk and Essex, especially when the ground is dry and hard, it will then work steadily; when the best ploughman cannot keep the other in the earth. There is an advantage arising from using it for Spring crops, sown upon one ploughing; for it turns the furrow perfectly, yet leaves the ground in a more crumbly state than most other ploughs (though certainly at the expence of a more extraordinary draught) the lower edge of the furrow brought up stands sharp and distinct, and affords, with a few dry days, mould for covering the seed,

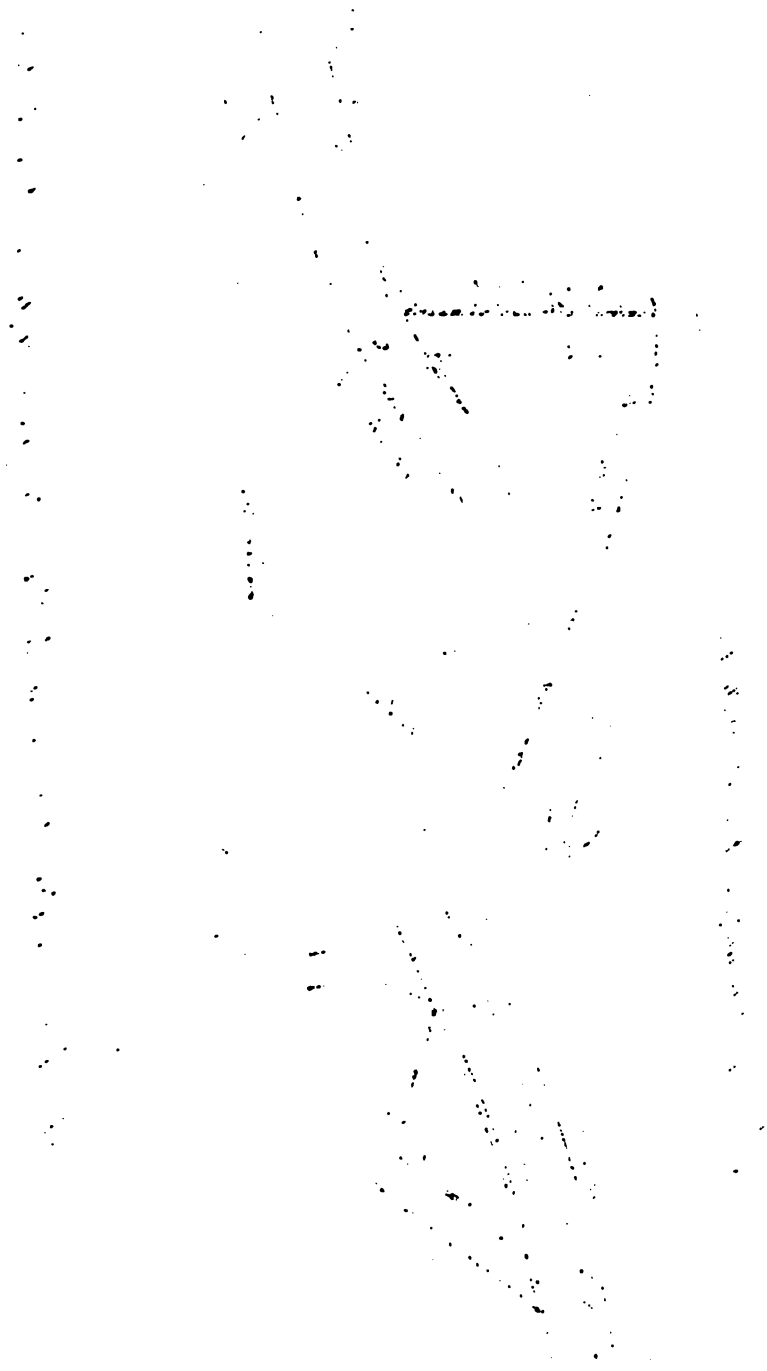
This Plough is usually drawn by two Oxen, & is used for
 being regulated by the Holder with the Ropes from the Handle, & is
 a light Soil. — is made by Wingham of St. Bourn, near Chichester, Sussex.
 will plow 12 Acre Rod of Fallow for Barley in a Day.





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observations.

falls into the hollow, formed by, or between, the
furrows. From the weight of this plough
it is not to be used in any work where the soil is
in a hard or loose state. The foot plough, used in
the Weald, would be a very proper addition to the imple-
ments of husbandry in the Weald, for lessening the ex-
pense of cultivating arable land, which are enormous.
It is not adapted for all strong soils (not kept in small ridges)
to be executed; and the waggons, taken altogether,
are not adapted to a farmer's use, in a country which is far
more level, than any other known in the neighbour-
hood. The carts have nothing particularly de-
erving praise or blame, but are in general made
for the carriage of small loads, from 16 to 24 bushels.
between horses and cattle. Respecting the com-
parison of horses and oxen, the following will be
the truth.

Eight

	£.	s.	d.
Eight oxen at £12. - -	96	0	0
Yokes and chains for six at 14s.	4	4	0
Six summer months work at 2s.			
<i>per week</i>	20	16	0
Ditto winter months at 2s. 6d.	26	0	0
		147	0
If they rest 2 or 3 months they			
may afford a profit of - -		8	0
		£.139	0
Four horses at £.25 - -	100	0	0
Harnes at 4s. - -	9	0	0
Oats, 2 bushels <i>per week</i> - -	52	0	0
Hay and herbage at 6s. <i>per week</i>	15	12	0
Farrier, wear and tear - -	4	0	0
		180	12
		41	12
An ox team will plough nine months in the			
year at 30s. <i>per week</i> - - -		54	0
The horse team will plough one acre <i>per</i>			
day the whole year through, at 42s. <i>per</i>			
week (six acres at 7s.) - -		105	0
In favour of horses - -		51	0
Ditto of oxen, above - -		41	12
Conclusion in favour of oxen -		10	12

The

For remarks and addi
observations.

ence of a waggon with fix horses is enormous.

	£.	s.	d.
orses at £.30	180	0	0
(fix inch tire) chains, &c.	40	0	0
cc.	16	0	0
	<hr/>		
	236	0	0
	<hr/>		
r cent.	11	16	0
-	26	0	0
-	18	0	0
arters <i>per</i> week, at 20s.	104	0	0
erbage	26	0	0
-	3	12	0
-	3	0	0
ear of harnes and waggon	5	0	0
s	6	0	0
	<hr/>		
	203	8	0
	<hr/>		

MANAGE-

MANAGEMENT OF WOODLAND.

SUSSEX has long been celebrated for the growth of its timber, principally oak. No other county can equal it in this respect, either in quantity or quality. It overspreads the Weald in every direction, where it flourishes with a great degree of luxuriance. The soil, which is best adapted for raising this plant, is a stiff strong loam, upon a red brick earth or clay bottom. Large quantities of beech are raised upon the chalk hills, which tree also flourishes in great perfection. The great demand for oak bark, has, of late years, been the cause of the large falls of oak, which has, in consequence of the high price of bark, risen so amazingly, that the fee simple of extensive and well wooded tracks, has been paid by the fall of timber and underwood in two or three years. Upon some estates in the Western part of the county, the value of oak has increased 100 *per cent.* in 12 years. When to this amazing increase in the value of wood, is added the more easy communication to sea-ports than formerly from the improvements which have taken place in the roads, it is not surprising that the late falls have been so large, and that greater supplies have been brought to the dockyards than the country will be able in future permanently to supply. The quantity now standing, of a size fit for the royal navy, compared to what it has been within half a century, is inconsiderable; and as there is no regular succession in reserve, it must follow that the supply will annually grow less.

For remarks and addi
observations.

er to form some idea what the increase in the
felled is now, and the proportion it bears to what
nty years back, the account is inserted of the ex-
wife, from one port in this county, of the total
of timber and bark in two periods of 5 years each;
from 1763 to 1767, the other from 1788 to 1792.
parts of the county the same proportion prevails.

	Load of timber.	Ton Bark.
to 1767	4,769	454
to 1792	19,884	2,646

of timber is 50 cubical feet.

ery early period of our history, we find the ex-
his most valuable commodity to be very consider-
the reign of our Sixth Edward, the hoys that were
h timber went out of Rye harbour to the number
tide, and never an English mariner among them.
le country round this place, for miles, was a fo-
not many years after this, anno 1591, a man was
o depart the town of Rye for executing the profes-
husbandman, that place not being fit for such an
—A sure proof of their being still in the woods.

arge sums of money that have lately been gained
r, has generated an assertion, which is strongly be-
at no land pays the proprietor equally with wood-
that grubbing and converting it to tillage is so
ney lost. No tythes, rates low, and out-goings
are great advantages, which it possesses over other
t when we take into the account the fact, that the
e so thickly scattered over a country, naturally one
oft inclined to wet; and that it excludes from
is the beneficial effects of winds and sun, thereby
the surface still wetter:—that all the inclosures

M

are

are unusually small, for the benefit of the timber; and that round every distinct field is a wood several rods wide, and crowded with trees; the consequent loss from having cultivation enveloped in a wood, must be highly injurious to corn particularly; and the landlord must feel this in the low rents of his arable and pasture; and the effect on the tenant is sufficiently conspicuous in his general method of living; and, until the woods shall be grubbed up, farms enlarged, and the petty enclosures laid open, no flourishing system of husbandry will ever take place in the wet soils of Sussex.

It is usual to cut the underwood from 13 to 17 years growth; it is applied to a great variety of purposes; it makes poles for hops, faggots for the lime-kilns, and cordwood for coal. Of all sorts of underwood, ash pays best, since a small piece is of use, and fitter for a greater variety of workmanship than any other wood whatsoever. Excepting chestnut, it makes the best and most durable hop-poles; it is also quartered and made into hoops for the coopers use, and the younger growth is cleaved and made into smart hoops. Young oaks, that grow scrubby, at the age of 30 or 35 years, are made into posts, rails, and used for repairs in general; the straight trees being left for timber.

The time of felling oak is always ruled by the barking: when that flows, which is in April, (although the bark this year did not run before May), the tree is felled. Bark, from young trees, is in quality much superior to that which is peeled from older ones; it forms more sap; and there is no such waste, as the hard and dead part of an old tree is dressed, which is not the case with the younger. In a wood, well planted with timber, underwood never comes to any size, and greater losses are sustained by the coppice wood being damaged, than can be equalled by the advantages

For remarks and
observation

of the growing timber. Woods that are full of timber have seldom any *willows* remaining; since they are shaded, and find the greatest difficulty to fight their way through the branches and roots of the other trees. The effect of this is, that a good succession of young oak follows a fall of old timber. Timber, from stubs, is some people preferred, to the growth from seed; for when a good stub is cut, the succeeding shoot springs up three feet the first year, when an acorn will hardly make its appearance out of the ground. And very fine oak timber, of two load to a tree, has been cut from stubs. Now timber is much to be preferred for moulding, the forest oak for plank and *thick stuff* (from 4 to 10 in thickness).

		£.	s.	d.
Price of good oak timber per load	-	6	0	0
----- beech	-	3	6	8
----- ash	-	3	15	0
----- elm	-	2	10	0
----- bark, in 1792	-	19	0	0
----- Ditto, in 1793	-	14	0	0

M 2

PRICE

Additional

PRICE OF LABOUR.

THE price of labour in Sussex is according to the situation. The standard price is much lower on the Western side of the county, than on the Eastern. Here, within half a century, it has advanced full 30 *per cent*.

A table of the different prices of labour and provisions is subjoined, taken in different parts of the county.

A TABLE of the PRICE OF LABOUR, 1793.

	Cuckfield.	Hamley.	Kitchinam.	Salhurst.	Bxtle.	East Bourne.	Appletham.	Salfey.	Arundel.	Average.
In Winter.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.
Summer	0 1 4	0 1 6	0 1 6	0 1 6	0 1 4	0 1 6	0 1 6	0 1 4	0 1 6	0 1 5
Harvest	0 1 6	0 2 0	0 2 0	0 1 8	0 1 6	0 2 3	0 2 0	0 1 6	0 1 6	0 1 9
Reaping wheat	0 2 0	0 2 6	0 3 0	0 2 6	0 2 3	0 3 0	0 2 6	0 2 0	0 2 6	0 2 4
Oats	8s. to 9s.	0 8 0	0 9 0	0 8 6	7s. to 8s.	8s. 6d. to 9s.	8s. to 10s.	0 7 0	0 8 0	0 8 5
Barley	11. 6d. to 2s.	0 1 6	11. 8d. to 2s.	0 1 6	11. 2d. to 2s.	0 1 4	11. 2d. to 11. 6d.	0 2 0	0 2 6	0 2 2
Peas	11. 6d. — 2s.	0 1 6	0 2 0	0 1 6	11. 8d. — 2s.	0 1 4	11. 2d. — 11. 6d.	0 2 0	0 2 6	0 2 2
Mowing grafs	0 3 0	0 3 3	0 3 6	0 3 0	0 3 0	2s. 9d. to 3s. 6d.	0 3 6	0 3 0	0 3 0	0 3 1
Clover	0 2 0	0 2 6	0 2 6	0 2 3	0 2 8	2s. 3d. to 2s. 6d.	0 1 9	0 2 0	0 2 0	0 2 2
Hoeing turnip	0 1 6	0 2 0	0 2 0	0 2 0	0 2 3	1s. 6d. to 2s.	0 1 8	0 1 6	0 1 6	0 1 6
Threshing wheat	0 5 6	0 6 0	5s. 6d. to 6s. 6d.	0 5 6	0 7 0	0 6 0	4s. to 7s.	0 4 9	0 5 6	0 6 0
Barley	0 3 0	0 2 8	0 3 0	0 2 9	0 3 0	0 2 3	2s. 14d. to 3s. 6d.	0 1 6	0 2 6	0 2 7
Oats	0 1 8	1s. 6d. to 1s. 8d.	0 1 6	0 1 6	0 1 6	0 1 4	2s. 14d. to 3s. 6d.	0 1 4	0 2 0	0 1 6
Peas	0 1 0	1s. to 1s. 4d.	0 1 6	1s. 4d. to 1s.	0 1 0	0 1 4	0 1 4	0 1 0	0 1 2	0 1 2
Women in winter	0 1 6	0 2 0	0 1 6	0 1 8	0 3 0	0 2 0	0 1 6	0 1 0	0 2 0	0 1 8
Summer	0 0 6	0 0 6	0 0 7	0 0 8	0 0 6	0 0 7	0 0 6	0 0 6	0 0 8	0 0 6
Harvest	0 0 9	0 0 10	0 0 8	0 0 8	0 0 7	0 0 8	0 0 8	0 0 7	0 0 10	0 0 7
Yearly earnings	0 0 10	0 1 0	0 0 10	0 0 10	0 0 7	0 0 10	0 0 10	0 0 9	0 1 0	0 0 10
Rent of cottage	25 0 0	30 0 0	30 0 0	28 0 0	16 0 0	30 0 0	30 0 0	28 0 0	29 0 0	28 8 10
	3 0 0	3 3 0	2 10 to 3s.	3 0 0	2 to 3s.	2 10 to 3s.	3 0 0	2 10 to 3s.	3 0 0	2 16 1

The reaping, mowing, hoeing by the acre, threshing by the quarter.

ional

A.

Average price of corn at Lewes market for sixteen years.

	Wheat per Qr.			Barley per Qr.			Oats per Qr.			Peas per Qr.			Tares per Qr.		
1777	2	5	0	1	5	6	0	18	0	1	18	0			
1778	1	14	0	1	5	0	0	18	0	1	14	0	1	18	0
1779	1	12	0	1	1	0	0	16	0	1	10	0			
1780	2	11	0	0	18	6	0	16	0	1	6	0			
1781	2	3	0	0	18	6	0	16	0	1	7	0	2	0	0
1782	2	11	0	1	10	6	1	2	6	1	16	0	2	0	0
1783	2	8	6	1	9	6	0	18	6	1	12	0	2	0	0
1784	2	1	6	1	4	0	0	18	0	1	18	0	2	8	0
1785	1	18	6	1	6	6	1	0	0	1	17	0	4	0	0
1786	1	18	6	1	4	0	0	18	0	1	12	0	2	16	0
1787	2	4	0	1	2	6	0	17	0	1	8	0	1	18	0
1788	2	10	0	1	3	0	0	17	0	1	12	0	2	0	0
1789	2	14	6	1	5	6	1	0	6	1	12	0			
1790	2	9	0	1	5	6	1	0	0	1	12	0	2	8	0
1791	2	2	0	1	7	0	0	19	0	1	14	0	2	12	0
1792	2	4	6	1	10	6	1	1	0	1	16	0	3	0	0
Gen. Av. 2	4	2 $\frac{1}{4}$		1	4	9 $\frac{1}{4}$	0	18	3	1	12	9	2	12	8 $\frac{1}{4}$

Smuggling. Along the coasts of this county, between East Bourne and Kent, the price of labour, in consequence of the effect of smuggling, is high. It is here that the robust and active young men, neglect all honest and industrious means of getting a livelihood, to engage themselves in the more lucrative, but vicious, course of smuggling. This illicit practice is still carried on, to the great diminution of the revenue; of the peace and good order of society; and to the injury of the health, not only of those concerned in it, but of the county at large. This is a subject, however, on which it is unnecessary to enlarge in this report.

Families.	8 Persons.	3 Persons.	6 Persons.	6 Persons.	7 Persons.	3 Persons.	Annual Expenses.
No 1. A man, his wife, and 6 children; the eldest 12 years of age, the youngest 2 years old.	£. s. d. 0 6 8 0 0 6 0 2 0 0 1 2½ 0 0 10 0 0 6 0 0 4½ 0 0 7	£. s. d. 0 1 11 0 0 2 0 0 5 0 0 1½ 0 0 2 0 0 2 0 0 2 0 0 2	£. s. d. 0 5 9 0 0 4 0 1 8 0 1 3 0 0 6 0 0 6 0 0 4½ 0 0 6	£. s. d. 0 5 9 0 0 4 0 1 8 0 1 3 0 0 6 0 0 6 0 0 4½ 0 0 6	£. s. d. 0 6 2½ 0 0 6 0 1 8 0 1 6 0 0 9 0 0 6 0 0 4½ 0 0 7	£. s. d. 0 2 10½ 0 0 3 0 0 10 0 0 7 0 0 3 0 0 4 0 0 4½ 0 0 8	Rent of a cottage and garden fuel, if bought, coils of, 15. to 17. 4s. The labourers are allowed the old wood; their wives pick up sticks. <i>Charity</i> .—The man's wear of a truck, <i>per annum</i> — 0 5 0 Wear of a working waistcoat and breeches — — 0 6 0 Two shirts — — 0 10 0 One pair of stout shoes, mended — 0 4 0 A pair of stockings — 0 4 0 Hat, handkerchiefs, &c. — 0 6 0 — 2 0 0
No 2. A woman, whose husband has run away, and 3 small children.	£. s. d. 0 13 1 34 0 4	£. s. d. 0 3 7½ 9 7 6	£. s. d. 0 10 9½ 23 0 2	£. s. d. 0 10 9½ 23 0 2	£. s. d. 0 12 2½ 21 15 11	£. s. d. 0 5 8 14 14 8	The woman's wear of a gown and petticoat — — 0 9 0 Two pairs of flannel shoes — 0 7 0 One pair of stockings — 0 3 0 Two pairs of stockings — 0 3 0 Two aprons — 0 4 0 Handkerchiefs, caps, &c. — 1 11 0
No 3. A man, his wife, and 5 young children; the eldest 20 years old, and the youngest an infant.	£. s. d. 0 11 0 28 12 0	£. s. d. 0 5 0 13 0 0	£. s. d. 0 14 0 5 8 0	£. s. d. 0 14 0 5 8 0	£. s. d. 0 14 0 5 8 0	£. s. d. 0 8 6 22 2 0	Lying-in, sickness, and loss of time 1 12 0 Total — 5 11 0
No 4. A man, his wife, and 3 small children; the eldest not quite 5 years of age, the youngest an infant.	£. s. d. 0 9 0 0 0 0 0 2 0	£. s. d. 0 4 0* 0 1 0 0 0 0	£. s. d. 0 9 0 0 2 0 0 3 0	£. s. d. 0 9 0 0 2 0 0 3 0	£. s. d. 0 10 0 0 3 0 0 1 0	£. s. d. 0 4 0 0 3 6 0 1 0	Price of the ½ peck of wheat bread 0 1 0 — gallon of flour 0 0 1½ — Labour in winter 0 9 0 — throughout the year 0 10 0 — in harvest — 0 15 0
No 5. A man, his wife, and 1 child; the man but 1 leg, his wife lame, but industrious, the child 6 years of age.	£. s. d. 0 14 0 22 14 4 28 12 0	£. s. d. 9 7 6 18 1 6 13 0 0	£. s. d. 23 0 2 16 2 2 16 3 0	£. s. d. 23 0 2 16 2 2 16 3 0	£. s. d. 23 15 11 10 9 11 16 8 0	£. s. d. 14 14 8 13 8 8 12 2 0	Price of the ½ peck of wheat bread 0 1 0 — gallon of flour 0 0 1½ — Labour in winter 0 9 0 — throughout the year 0 10 0 — in harvest — 0 15 0
No 6. A man, his wife, and 1 child; the man but 1 leg, his wife lame, but industrious, the child 6 years of age.	£. s. d. 0 14 0 22 14 4 28 12 0	£. s. d. 9 7 6 18 1 6 13 0 0	£. s. d. 23 0 2 16 2 2 16 3 0	£. s. d. 23 0 2 16 2 2 16 3 0	£. s. d. 23 15 11 10 9 11 16 8 0	£. s. d. 14 14 8 13 8 8 12 2 0	Price of the ½ peck of wheat bread 0 1 0 — gallon of flour 0 0 1½ — Labour in winter 0 9 0 — throughout the year 0 10 0 — in harvest — 0 15 0

The tea used in a family, is from 2 to 4 oz. per week, at 3 d. per oz. Most sugar, half a pound, at 9 d. to 1 s. 6 d. per lb. Salt butter, quarter of a pound, at 8 d. to 9 d. per lb. Cheese is from 5 d. to 6 d. per lb. Beer none.

Many of the women wash for the unmarried labourers. Those labourers who can rent a cottage and garden, can generally keep poultry, and fatten a few— and all have frequent and profitable access to the charitable and considerable farmers, such as milk, butter, and inferior meat, which must make up the deficiencies of earnings.

TABLE of the PRICE of PROVISIONS, &c. 1793.

	Cuckfield.			Hamfey. Kitchinam.			Salehurst.			Bottle.			East Bourne. Applesham.			Selley.			Average.		
	L.	s.	d.	L.	s.	d.	L.	s.	d.	L.	s.	d.	L.	s.	d.	L.	s.	d.	L.	s.	d.
Flour per gallon	0	0	11	0	0	11	0	0	11	0	0	11	0	0	11	0	0	11	0	0	11
Peck loaf	0	0	13	0	0	13	0	0	13	0	0	13	0	0	13	0	0	13	0	0	13
Cheese per lb.	0	0	6	0	0	6	0	0	6	0	0	6	0	0	6	0	0	6	0	0	6
Butter per lb.	0	0	8	0	0	9	0	0	8	0	0	9	0	0	8	0	0	9	0	0	8
Pork per lb.	0	0	8	0	0	7	0	0	8	0	0	7	0	0	8	0	0	7	0	0	8
Bacon per lb.	0	0	7	0	0	8	0	0	7	0	0	8	0	0	7	0	0	8	0	0	7
Malt per bushel	0	6	6	0	6	6	0	6	6	0	6	6	0	6	6	0	6	6	0	6	6
Bruff faggots per load *	1	0	0	13s.	to	20s.	12s.	to	18s.	12s.	to	20s.	12s.	to	18s.	12s.	to	20s.	12s.	to	18s.
Potatoes per bushel.																					
Cordwood.																					

* A load is 100 faggots. A common family consumes 300, and a cord of wood (14 feet in length, 3 high, and 3 wide). Some families consume 10 bushels of coal, in addition to the above per annum.

STATE OF POPULATION.

surest criterion that can be taken, concerning the state of population, is, by abstracting from the state of births and burials at different periods, different parts of the county, comparing the state of some years back, with the present time. And it will be a source of singular pleasure to every one acquainted with the fact, that a great and uniform increase has taken place in point of numbers. The opening of the county, by cutting down the forests, has, by contributing to the better health of the county, had its effect. The draining of the marshes, which has let off the stagnated waters, has also been highly serviceable.

Arundel parish, during a period of 19 years, from 1578 to 1597, the burials exceeded the baptisms 84; but, in such shorter period of 13 years, from 1780 to 1792, the excess of baptisms was 243.

Haylesham, another parish situated upon the other side of the county, in 10 years, from 1558 to 1567, the burials exceeded the baptisms by 10; and in 10 years, from 1599 to 1608, this had increased to 52; and in 10 years, from 1611 to 1620, the excess of burials was still increased to 162; but, from 1783 to 1792, being 10 years, the baptisms exceeded the burials by 140.

Horsham, during a period of 23 years, from 1579 to 1602, the excess of baptisms over burials was 343; and in 10 years, from 1782 to 1792, the excess was 337.

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In

In East Bourne, 24 years, from 1648 to 1659, the burials out-numbered the baptisms by 132; but, in the same period of time, from 1769 to 1792, the excess of baptisms were 474.

In the parish of Rye, from 1630 to 1640, 11 years, the burials exceeded the baptisms 158; and in the same period of time, from 1782 to 1792, the excess on the other side was 161. During 4 months, in 1563, August, September, October, and November, not less than 620 persons were buried: the average number, both before and after this, was 10 or 12 each month; and in 1580 were 592 burials; the common mortality, both before and after this, was 110 each year.

In the marshes along the coasts the superiority of the baptisms has been great, compared to the registers in the last and preceding century.

In the parish of Battle, for 20 years, 1615 to 1635 the excess of baptisms 123. In 10 years, from 1783 to 1792, 176. In every one of these parishes is discovered an excess of baptisms. The case is exactly the same in a number of other parishes throughout the county, as my notes from various other quarters inform me.

WASTE

For remarks and add
observations.

WASTE LAND.

es of this county on the Northern part of it
extensive. They are irregularly united by a chain
all through this part of Sussex, from Hamp-
nt, intersected in places by cultivated districts.
ortion of land, containing 470,360 acres, they
less a space than 90,000 acres of land; and,
ers this the more singular, the whole range from
ft, within 35 to 45 miles of the capital, all of
a judicious management in the cultivation,
only be converted to the amazing benefit of the
which they are a part, but be highly productive
re at large. By a very little calculation it can
that this tract of land, under a well arranged
ght rear up an additional 200,000 sheep to the
ck of the county, besides other cattle in
might produce several thousand quarters of
also be the means of finding employment for
dreds of families. The soil is at first a dis-
ght, it is almost all of it of a similar nature—a
vegetable sand, on a clay-marl bottom. Under
one, and over the whole tract, iron works for-
ed. Upon St. Leonard's, within 35 years, above
worth of timber has been cut—in the year 1713
s were upon this part. If this soil were pro-
d, by pursuing a judicious and well regulated
nothing like the following arrangement might

In the first place, if the forest be broken up for the first time, the furz, ling, broom, heath, with all other rubbish whatsoever covering the surface should be burnt as it stands, and then pared and burnt from 2 to 4 inches in depth; and rye sown the same year, or if the work be done sufficiently early in the year, a crop of turnips may first be obtained. On this poor sandy soil, care should be taken that the turnips be sown in good time, or they will not arrive to any size; if therefore, the turnips be not in the ground before, or by, Midsummer, rye should then take place, to be spring-fed with sheep; and succeeded by turnips; and then with oats; laid down with clover or saintfoin; to remain as long as the layer continues good—but the longer it is, the better, for the land, as such a soil is far better adapted to the maintenance of sheep than it ever can be by being turned over to a state of tillage.

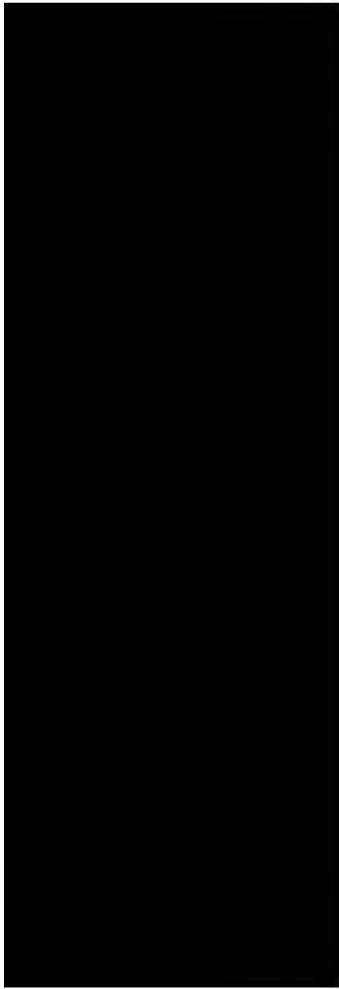
The great advantage of saintfoin is here obvious at first view, if on a medium the present rent of this land, in its uncultivated state, falls short of 1*s.* 6*d.* *per* acre. Whenever the land shall be laid down to saintfoin, after two turnip crops, or a crop of rye, and another of turnips, in order to prepare, meliorate, and clear it, all expences will be paid by the two preceding crops and the saintfoin; and after this thorough preparation, which gives time to clear the land, and enriches it with the manure arising from the sheep, the saintfoin will then last good 10 years, and be worth from 15 to 25 rents, without the expence of tillage, and for the next 4 years may be very fairly valued at 10 rents *per* year. It should not be fed after it is mown before Michaelmas, when it will afford a great plenty of grafs till Christmas: it must then be laid by for the scythe. It is the best food for lambs at that time of the year, that can possibly be given, being sure to preserve them in a good habit

**For remarks and ad-
observations.**

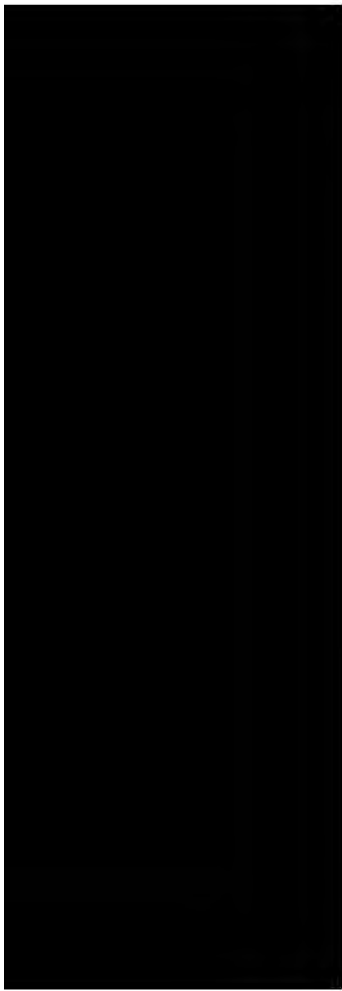
dy—they are particularly fond of it. It is
ptable to horses, and no hay in the world can
d with it. Sheep will feed upon it till Christ-
at the expence either of turnips or hay, and
other mode of managing such land that will be
rn out with such profit, as no other substitute
d to maintain such a stock. Not quite the
ry of oats should be sown with it, that the
large a crop of oats may not destroy the young
ever, as the land is very poor, this is not
hen it is broken up, a good winter and summer
follow; it must then be planted with rye, and
g a surer turnip season than tares, when worms
not feed on the rye, which they are apt to do
nd is first broken up, more than upon tares,
ter: the rye must be spring-fed with sheep,
, after 2 or 3 ploughings, as occasion may
n with turnips.

imilar to the preceding should be adopted on
A hint is often sufficient for the intelligent

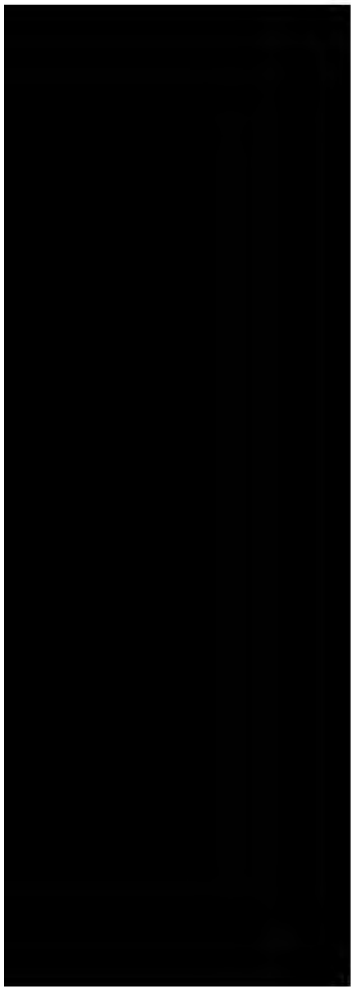












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